MARKET ANALYSIS:

DISASTER RECOVERY SERVICES

INPUT

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MARKET ANALYSIS:
DISASTER RECOVERY SERVICES

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DISASTER RECOVERY SERVICES

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1 INTRODUCTION

I INTRODUCTION

A. SCOPE OF THE PROJECT

- The objectives of this project are to:

  - Identify the nature, size, concentration, availability and five-year outlook of the market for Disaster Recovery Services (DRS).

  - Identify and profile the major market segments which are most attractive for near term penetration.

  - Determine key features required to successfully enter this market.

- Information for this study was obtained primarily from on-site and telephone interviews with medium to very large-scale computer users in the United States. In addition, visits were made to BCS facilities at Vienna, Virginia, and Seattle, Washington; a Computer Security Institute seminar on Disaster Recovery Planning was attended, and a review was made of trade journal articles and vendor sales literature.

- Financial forecasts included in this report are based on current U.S. dollars and include an allowance for inflation of 10% per year, compounded annually.

B. DEFINITIONS

- For the purposes of this project, the following definitions are used:

  - Disaster: Any event which results in an unexpected computer site shutdown such that processing must be done at another site.

  - Disaster Recovery Plan: A detailed, documented description of all of the resources, procedures and decisions required before, during and after a disaster.

  - Disaster Recovery Service (DRS): A vendor supplied facility which provides the user with physical access to hardware, software, and supplies in the event of a disaster. The vendor is compensated by the user, in advance of a possible disaster, for guaranteeing the availability of such facilities. The two types of DRS discussed in this report are "Vendor Hardware" and "Vendor Shell" (see definitions below). Using a remote job entry terminal to a vendor facility is not considered to be a DRS.

  - Disaster Recovery Facilities: Any alternative which enables a user to do computer processing on short notice at a physical location other than where the workload is normally processed. Examples of such facilities discussed in this report are:

    . "Co-op": An arrangement among two or more firms to share the costs of developing and maintaining computer ready space. No on-site hardware is used.

    . "Internal Back-up": Another site owned by the user's organization. This site can be computer ready space only ("Company Shell") or it can have on-site hardware ("Company Hardware").

- "Mutual Aid": An informal arrangement, (i.e., no money is exchanged) between two or more firms whereby each agrees to use "best efforts" to provide the other with facilities, if needed. Access to facilities is not guaranteed.

- "Service Bureau": An arrangement with a computer services vendor to process some or all of the user's workload. Access to the facilities is usually not guaranteed. The vendor does not actively market this type of processing as a DRS.

- "Vendor Hardware": A Disaster Recovery Service (DRS) with on-site hardware.

- "Vendor Shell": A Disaster Recovery Service (DRS) with computer ready space only. No on-site hardware is present.

- Respondents: A term for firms participating in this survey. When the "number of respondents" or "percentage of respondents" is used, this means the calculation is based on the number of firms answering that particular question.

- Additional terms used in this report are defined in Appendix A.

C. INTERVIEW PROGRAM

- A total of 127 interviews were completed (27 on-site and 100 telephone).

- Respondents selected were users of IBM (or IBM compatible) Model 148 or larger computers.

- Ninety-two percent (117) of those firms interviewed were not currently users of a Disaster Recovery Services, while eight percent (10) were customers.

- All interviews were conducted during July and August, 1979.

- Persons interviewed were the top computer executive (majority of the interviews) and/or the individual most knowledgeable about Disaster Recovery attitudes and actions within the firm. The top computer executive was defined as the highest level full-time data processing manager in the organization.

- Of the firms interviewed, 92% (117) were selected with no prior knowledge of their Disaster Recovery attitudes. The remaining 8% (10) were chosen because they were known to have evaluated Disaster Recovery alternatives in depth. Five of the ten DRS users were known to be users prior to being interviewed.

- Respondents generally displayed enthusiasm for discussing disaster recovery and indicated interest in receiving a copy of a summary of the survey which was promised to them in exchange for their interview time.

- On-site interviews lasted an average of 60 minutes, while telephone discussions averaged 30 minutes each.

- Respondents were informed that neither their name nor their firm's name would be identified with their replies.

- Single site firms (i.e., those with only one site with a Model 148 or larger computer) constituted 73% of the respondents, while multiple site organizations (i.e., two or more sites with Model 148 or larger computers) were 27% of the survey.

- Operating systems in use at the main sites of those interviewed were: MVS - 44%; VS - 26%; DOS - 21%; OS - 5% and VM - 4%.

- Characteristics of survey respondents by industry, size of main computer site, geographical area and TP usage can be found in Exhibits I-1 and I-2.

EXHIBIT I-1

NUMBER OF RESPONDENTS BY INDUSTRY AND COMPUTER SITE SIZE

INDUSTRY / SITE SIZE	DISCRETE MFG.	PROCESS MFG.	TRANS-PORTA-TION	UTILITIES	BANKING	INSUR-ANCE	LOCAL GOVERN-MENT	EDUCA-TION	SERVICES	MEDICAL	RETAIL	WHOLE-SALE	OTHER	TOTAL
MEDIUM	13	18	4	5	8	4	4	5	2	4	1	1	1	70
LARGE	6	9	0	6	9	8	3	1	2	0	2	0	0	46
VERY LARGE	2	2	0	2	1	1	1	0	1	0	1	0	0	11
TOTAL	21	29	4	13	18	13	8	6	5	4	4	1	1	127

SIZE CATEGORIES (CPU POWER RATING)

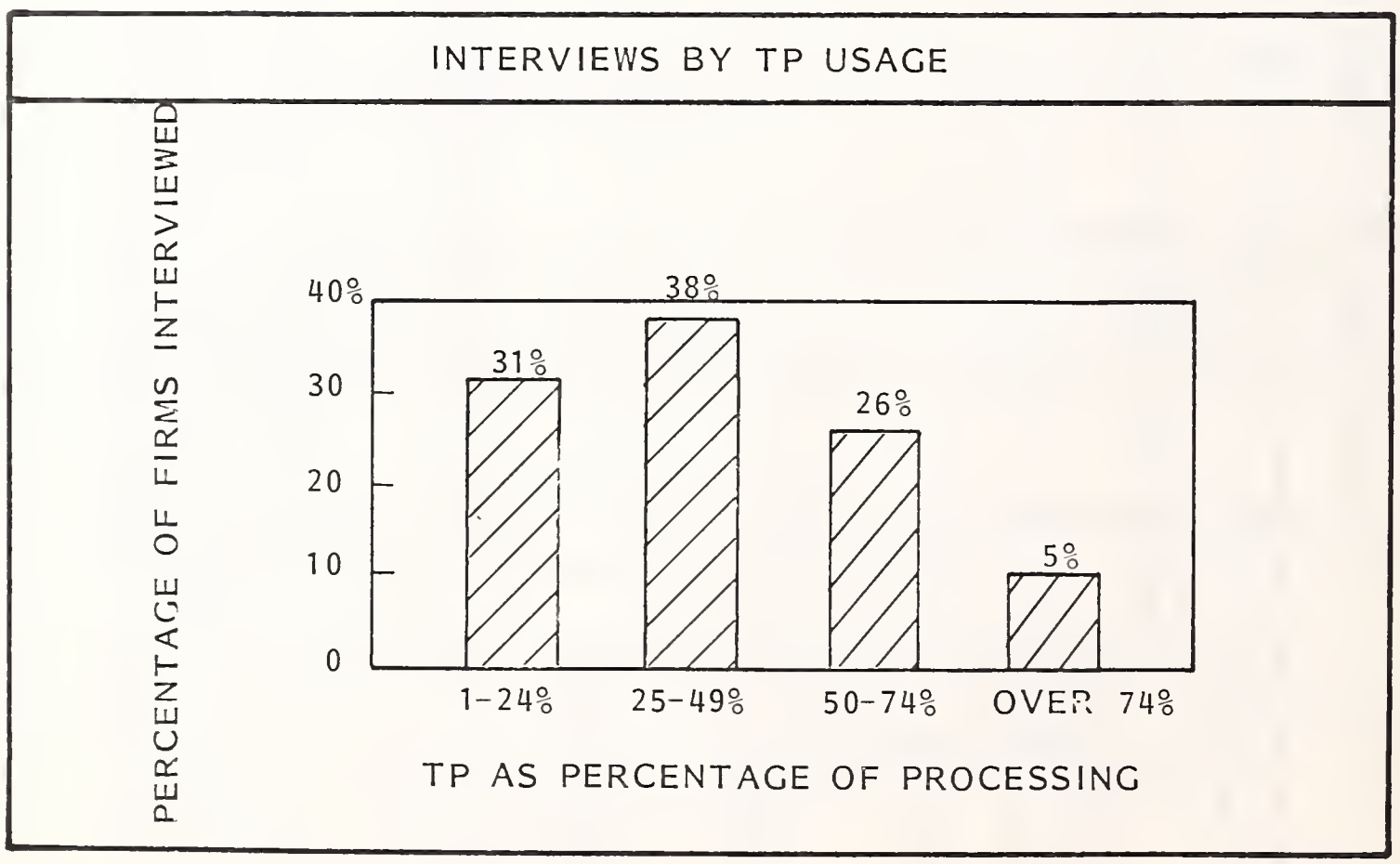
MEDIUM = 1-148 TO LESS THAN 2-158 (0.5 TO 1.9)
LARGE = 2-158 TO LESS THAN 3-168 (2.0 TO 8.6)
VERY LARGE = OVER 3-168 (OVER 8.6)

EXHIBIT I-2

INTERVIEWS BY GEOGRAPHIC AREA AND TP USAGE

INTERVIEWS BY GEOGRAPHIC AREA		
AREA*	PERCENTAGE OF INTERVIEWS	NUMBER OF INTERVIEWS
EAST	39%	49
GREAT LAKES	20%	26
CENTRAL	7%	9
SOUTH	6%	7
WEST	28%	36
TOTAL	100%	127

*SEE APPENDIX FOR LIST OF STATES INCLUDED IN EACH AREA



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II EXECUTIVE SUMMARY

II EXECUTIVE SUMMARY

A. OVERVIEW

- The market for Disaster Recovery Services is growing rapidly. Twelve months ago it was almost non-existent. Annual revenues which today are estimated at $2.8 million annually, will grow to $76 million by 1984.

- Providing on-site back-up equipment ("Vendor Hardware") is a significantly larger market than Computer Ready Space ("Vendor Shell"). Vendor Hardware will grow from a current base of $ 2.4 million to $70 million by 1984. This contrasts sharply with the Vendor Shell market with 1979 revenues of $0.4 million and 1984 sales of $6.0 million.

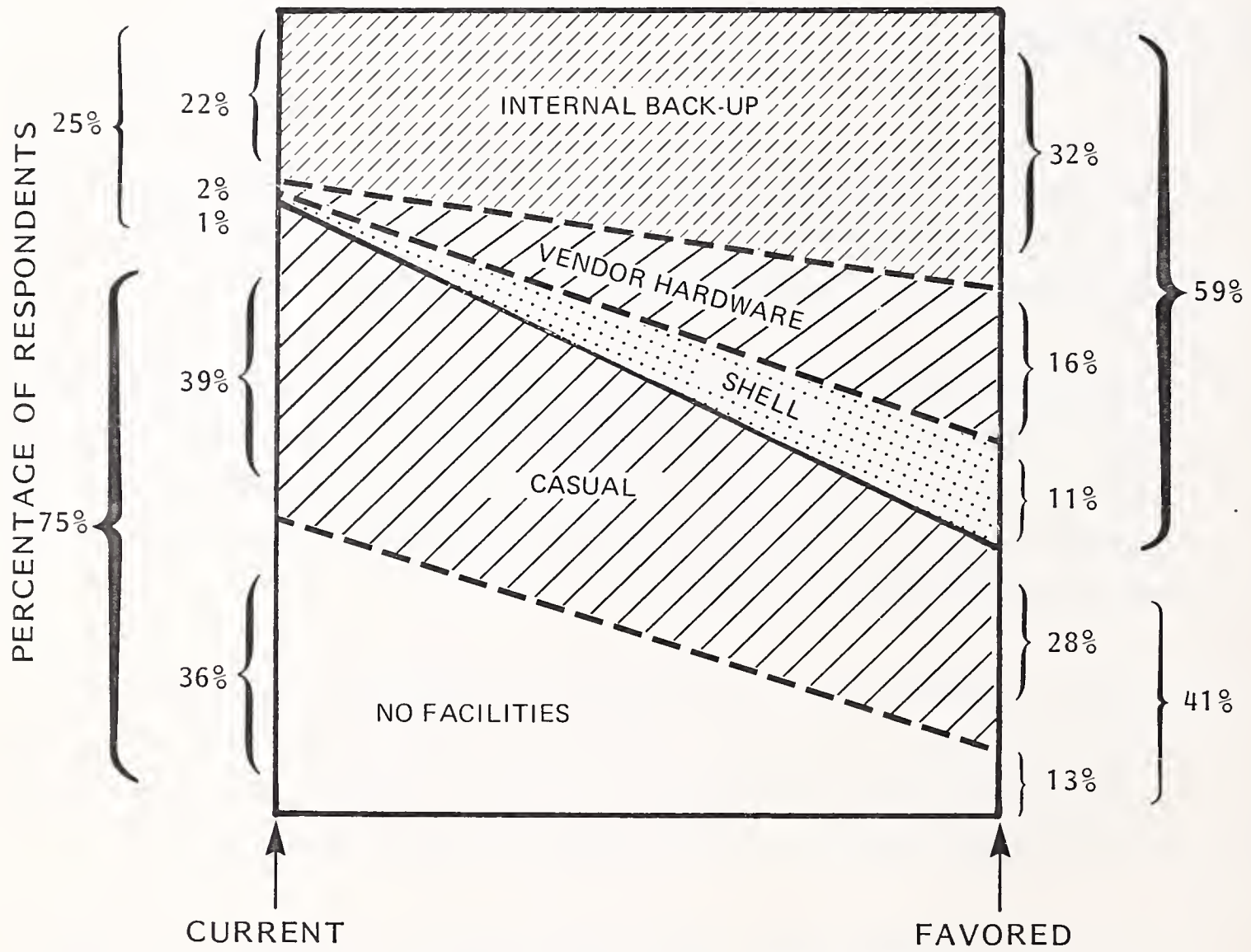
- Interest in Disaster Recovery Facilities is widespread among IBM users of model 148 or larger computers. Among those organizations surveyed, 57% are currently investigating alternatives for back-up. In spite of the newness of the Vendor Hardware option, one in six interviewed favor this approach.

- Facilities with "guaranteed access" are increasing in popularity. As shown in Exhibit II-1, Internal Back-up, Vendor Hardware, and Shell comprise 59% of the favored facilities, as compared to current usage of 25%.

- "Non-guaranteed access" facilities (Casual and No Facilities) are declining from 75% of current usage to 41% of favored usage.

EXHIBIT II-1

"CURRENT" VERSUS "FAVORED"
DISASTER RECOVERY FACILITIES
(PERCENTAGE OF RESPONDENTS)



- Although Vendor Hardware and Shell services have only been promoted for less than a year, 27% of those surveyed favored their usage.

- Interest in Vendor Hardware varies among industries. As shown in Exhibit II-2, Discrete Manufacturing, Process Manufacturing, and Banking are the most favorable inclined sectors of those surveyed. Those least interested in Vendor Hardware were Local Government, Retail, and Medical.

- Interest in different types of back-up facilities also varies according to the size of the computer site (Exhibit II-3). Medium size sites (one Model 148 to less than two Model 158s or equivalent) favor the Casual approach, whereas Very Large sites (over three Model 168s or equivalent) prefer Internal Back-up. Vendor Hardware, and Shell facilities, are relatively constant in their appeal.

- Major forces are stimulating the Disaster Recovery marketplace. Independent and governmental auditors are beginning to insist that top management demonstrate a viable computer back-up capability. Organizations are increasing their reliance upon the computer to perform functions critical to their daily operation.

- Three key needs of the marketplace have been identified:

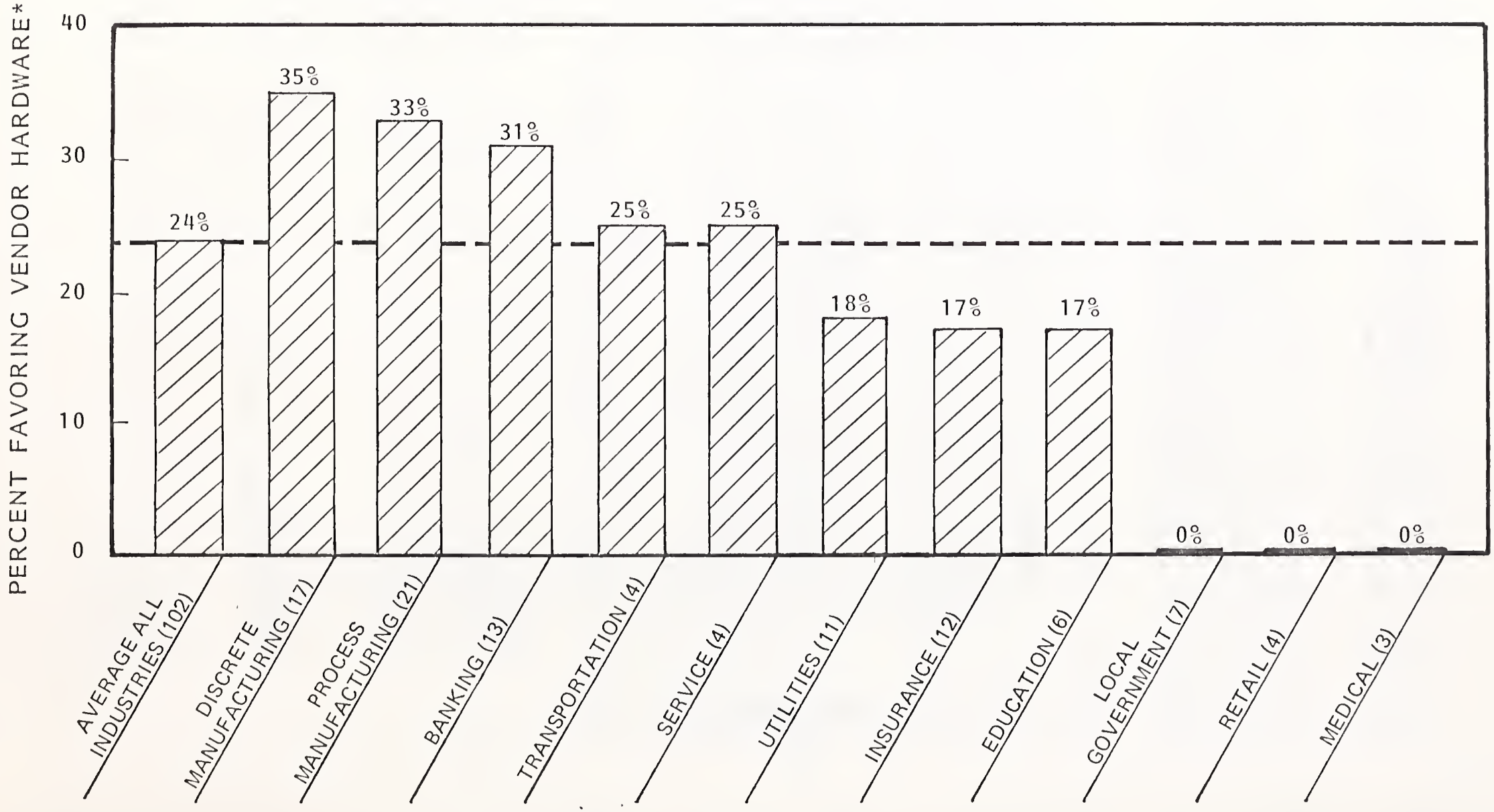
  - Reliability: A firm must decide how certain that access to the back-up facility is available when it is needed. In addition, it must decide how certain it wishes to be that compatability is likely and that adequate computer time will be forthcoming.

  - Access Speed: A firm must determine how fast access is needed to the facility if a disaster occurs.

  - Cost to Guarantee Availability: How much the firm will pay, in advance, to be assured that reliability and access speed needs are satisfied.

EXHIBIT II-2

"VENDOR HARDWARE" PREFERENCES (BY INDUSTRY)

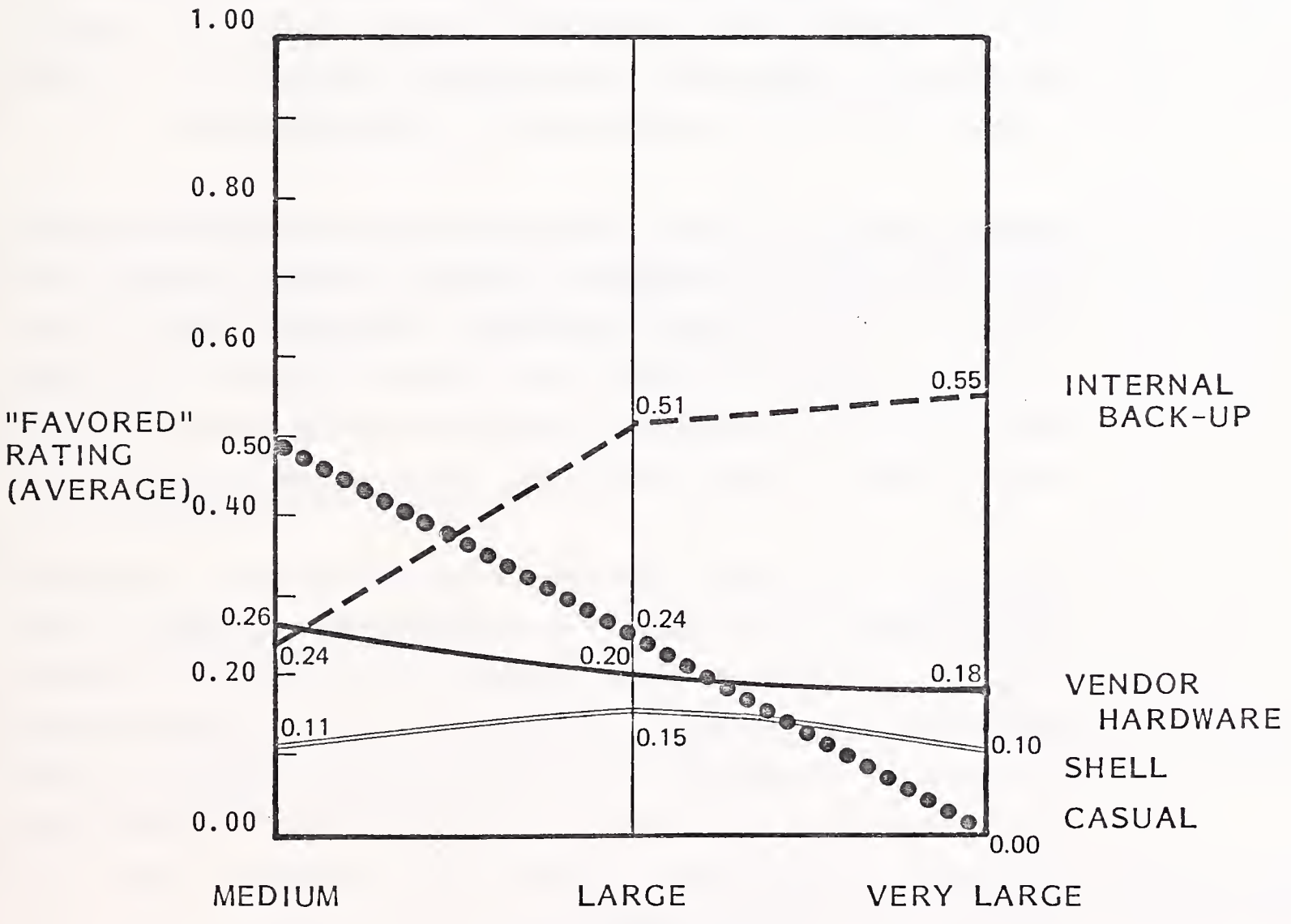


* = NON-DRS USERS ONLY

( ) = NUMBER OF RESPONDENTS

EXHIBIT II-3

"FAVORED" DISASTER RECOVERY FACILITY
(BY MAIN SITE SIZE)



RATING SCALE

1 = FAVORED

0 = NOT FAVORED

- Four primary market segments exist:

  - Low Cost/Casual: This group wants a back-up facility, but will sacrifice reliability in exchange for minimizing cost. Typically, access to the facility is not guaranteed by the Mutual Aid and Service Bureau arrangements which this group favors. Most agreements are totally non-binding.

  - Slow Access-Batch: This segment is willing to pay in advance for guaranteeing availability, but will sacrifice fast access and TP needs in exchange for reducing the front-end cost of the service. The Shell approach is the most commonly selected option of this group.

  - Fast Access-Batch: Firms in this segment place a high value on gaining fast access to the facility and being highly certain that, if needed, their batch work can be processed successfully. They would prefer TP back-up also, but have been unable to find vendors equipped to fully handle that aspect of their processing. Internal Back-up and Vendor Hardware have the greatest appeal to this group.

  - TP Access: This group wants everything that the Fast Access-Batch segment wants, plus full support of their TP needs. A number of firms, being unable to find a vendor supplying this market, have elected to select either Internal Back-up, or a Vendor Hardware supplier that has at least some TP expertise. If the latter option is selected, they hope to sub-pool their TP needs with other customers of the service. Typically, they find that progress in this direction is slow. This segment is the least cost sensitive.

- In spite of the high level of market interest, a number of significant challenges exist for firms considering entry into the Disaster Recovery Services market:

  - Competition will be extensive: Many alternatives exist for those interested in Disaster Recovery Facilities. These include not only the

services mentioned above, but also increased security expenditures (in the hopes of minimizing the need for Disaster Recovery in the first place). New vendors are entering the market at a rapid pace. Whereas only two suppliers were active in January of 1979, more than 18 suppliers were identified by name during the survey.

- Marketing costs will be high: Companies are unfamiliar with how to evaluate and buy a Disaster Recovery back-up capability. The evaluation process is complex, lengthy, and highly subjective. Analysis data is scarce. The decision is typically made by senior non-data processing management upon the recommendation of the top computer executive.

- In addition, the cost of evaluating Disaster Recovery facilities, as well as developing and maintaining a Disaster Recovery plan, can easily exceed several times the charge for Vendor Hardware services.

B. RECOMMENDATIONS

1. MARKET SEGMENTS

- The most attractive segments for market entry at this time are "TP Access" and "Fast Access-Batch".

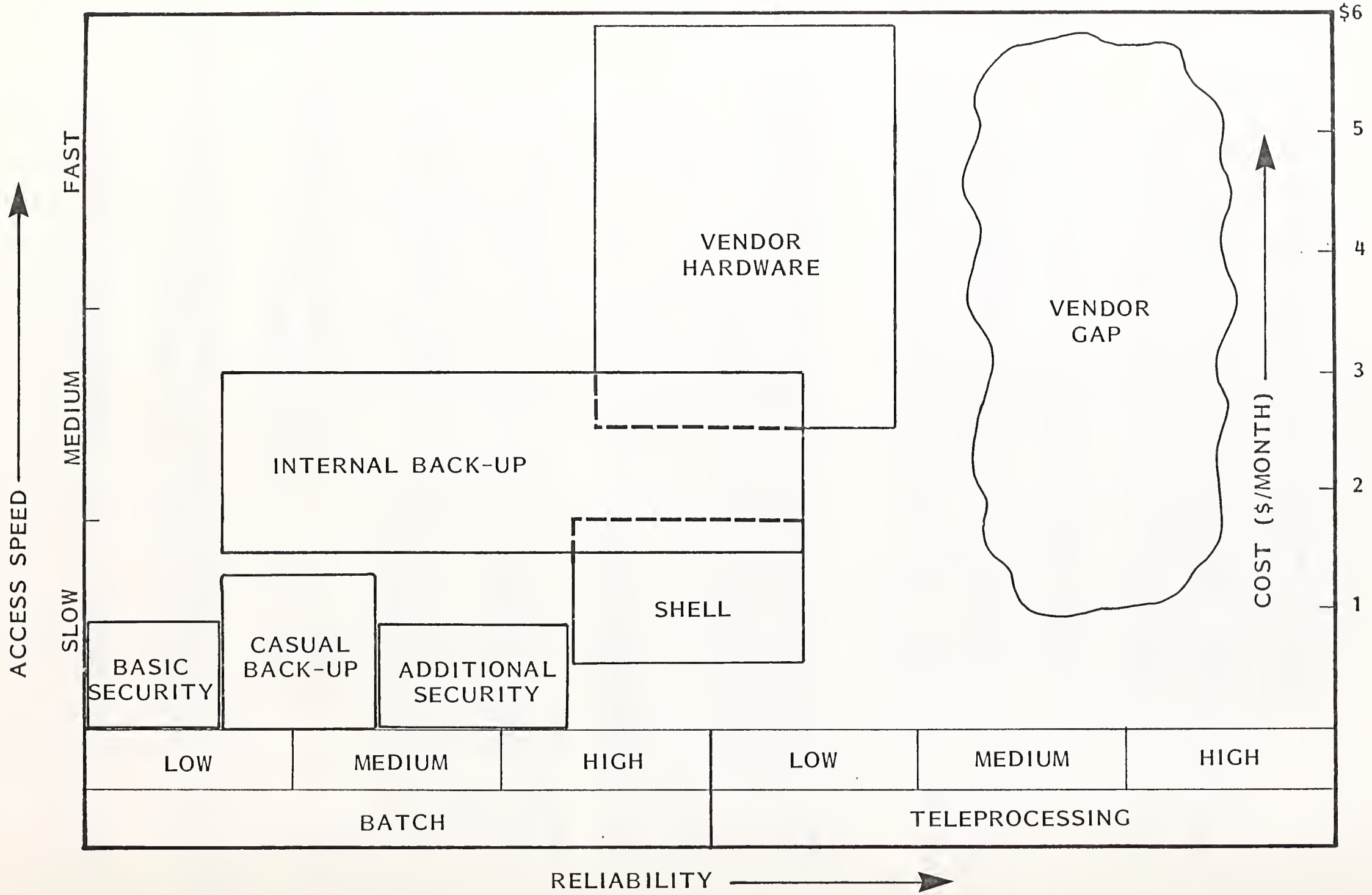
  - While currently very small, TP Access has the potential to become the largest segment available to vendors.

  - No vendors currently are adequately meeting the need for comprehensive TP back-up. (See Exhibit II-4)

  - Many Fast Access-Batch customers want TP support.

EXHIBIT II-4

THE VENDOR GAP



- Many firms which want Fast Access-Batch in the short term will evolve to TP Access as their dependence upon teleprocessing grows.

2. PRODUCT STRATEGY

- Establish a tangible competitive edge.

  - Attempt to offer a major TP back-up facility at a monthly price not more than one-third higher than current levels for batch back-up. This approach provides a unique service within a price range familiar to the market.

  - Offer an on-going Disaster Recovery Planning and Maintenance service as a part of the standard monthly fee. One of the most frequently voiced concerns of respondents was how to develop and maintain a realistic Disaster Recovery Plan with scarce resources. This service would not only addresses this need, but also aid in the justification process for the prospect. The firm feels it is getting "something tangible" for the monthly fee.

  - Offer a free "Decision Simplification" service to prospects. This pre-packaged methodology would do for the complex Disaster Recovery evaluation phase what life insurance worksheets, checklists, and analysis programs do for the insurance buyer - simplify the problem so that the prospect is less overwhelmed.

  - Attempt to physically locate the back-up facility within 200 miles of 60% of the targeted market. The closer the facility, the more appeal it will have to the prospect.

- Construct a product package which includes (in addition to features mentioned above):

  - On-site Model 3033 or larger.

- TP facilities available for use on 24 hour notice.
- Shell for client use after initial Disaster Recovery processing.
- Availability of both shared and standalone processing.
- Facility access speed within four hours if needed.
- Six to twelve shifts of testing time per year.
- Office and terminal space.

- Price agressively.
  - Charge a one-third premium over batch fees for tangible, unique services of major importance (e.g., TP facilities).
  - Price non-unique services (e.g., basic on-site hardware configuration, Shell, etc.) at 10% under existing competition.

- Sell the service direct, utilizing full-time sales people dedicated to Disaster Recovery services. Select sales personnel for their ability to gain the confidence and trust of top executives of billion dollar companies.

- Direct initial sales efforts towards banks ($2 billion assets or more) and manufacturers ($1 billion sales or more). Focus on firms with equipment in the single Model 145 to multiple Model 168s (or equivalent range).

- Convey a strong image of major commitment to the Disaster Recovery facilities business. Customers are wary of firms which appear to be using the service as a "cheap way to pay for their own back-up."

- Timing is important. If market entry is elected, the service should be announced as soon as possible. Vendors with the most credibility will gain the largest market share. The best way to gain credibility in this new market is to have a large number of customers early in its evolution.

III MARKET STRUCTURE

III MARKET STRUCTURE

A. TOTAL MARKET FORECASTS

- The Disaster Recovery Services market, for firms with at least one Model 145 or larger, will grow from an estimated 1979 revenues of $2.8 million to $76 million by 1984 (Exhibit III-1).

- Total Externally Available Revenue (Disaster Recovery Services plus Co-ops) is $3.3 million for 1979 and will increase to $82 million by 1984.

- The number of firms using External Disaster Recovery Facilities will climb from 3% of the Model 145 and above market in 1979, to 36% by 1984 (Exhibit III-2).

- A variety of significant forces are stimulating this market growth.

  - Organizations are increasing their reliance upon the computer to perform functions critical to their daily operations.

  - Independent and governmental auditors are beginning to insist that top management demonstrate a viable computer back-up capability.

EXHIBIT III-1

MARKET FORECAST OF EXTERNALLY
AVAILABLE REVENUE
($M)

	REVENUES PER YEAR			
	1979	1980	1981	1984
DISASTER RECOVERY SERVICES	2.8	4.6	12.0	76.0
TOTAL EXTERNALLY AVAILABLE REVENUES*	3.3	5.2	13.6	82.0
PERCENTAGE OF AVAILABLE FIRMS**	3%	6%	12%	36%

*DISASTER RECOVERY SERVICES PLUS OTHER DISASTER RECOVERY FACILITY EXPENDITURES OUTSIDE THE FIRM, SUCH AS FOR CO-OPS.
**NUMBER OF FIRMS FORECAST TO SELECT EXTERNAL FACILITIES, AS A PERCENTAGE OF THE TOTAL NUMBER OF FIRMS WITH MODEL 145 OR LARGER

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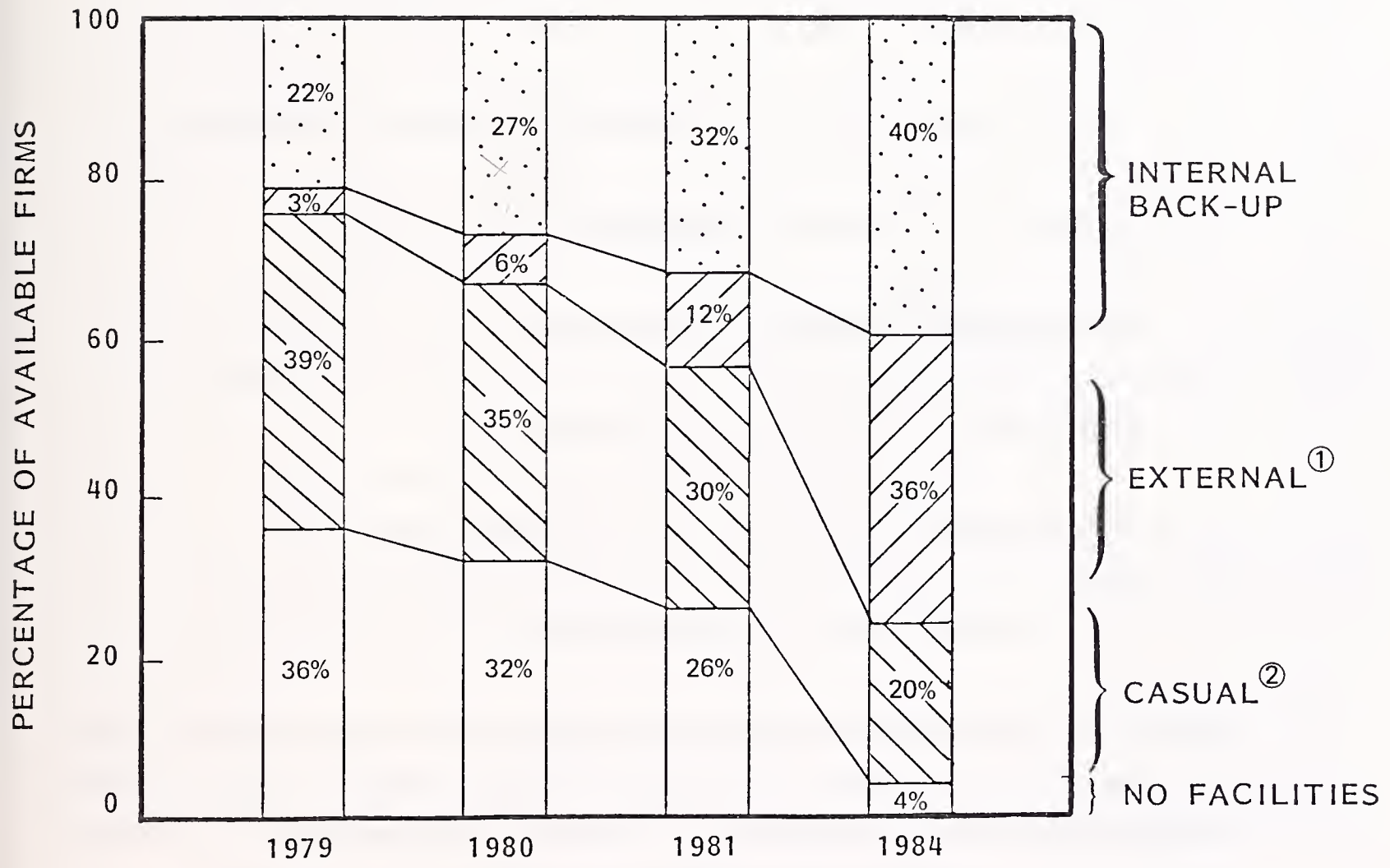
EXHIBIT III-2

MARKET SHARE BY PERCENT OF AVAILABLE SITES
(MODEL 145 AND LARGER)



① EXTERNAL = VENDOR HARDWARE + VENDOR SHELL + CO-OP
② CASUAL = MUTUAL AID + SERVICE BUREAU

- There is increasing concern about the legal liability of corporate officers if they fail to maintain sound business practices essential to the organization's continued survival.

- The trade press is actively publicizing case histories of Disaster Recovery experiences.

B. MARKET SEGMENTS

- A market segment is a group of customers which have common needs.

- Each market segment requires different types of products and services.

- Market segments are defined in terms of:

  - Who is buying (Customer Characteristics)

  - What they are buying (Product Position).

  - What benefits they expect to receive (Need Expectation).

  - Who is selling (Vendor Characteristics).

- Four key market segments exist for the Disaster Recovery Services market. These segments encompass the needs of those computer users who have decided they must find some type of Disaster Recovery facility outside of their own site. The market segments are named:

  A. LOW COST/CASUAL

  B. SLOW ACCESS-BATCH

C. FAST ACCESS-BATCH

D. TP ACCESS

- Computer users in these segments range in size from single Model 145 sites to multiple 3033 users.

- Each of the four market segments is discussed below in terms of products and benefits sought, customer characteristics, vendor activity, market size and trends, as well as by factors affecting market growth. Exhibits III-1, III-2, III-3, and III-4 summarize the revenue and market share forecasts for 1979, 1980, 1981, and 1984.

1. SEGMENT A: LOW COST/CASUAL

a. Products And Benefits Sought

- Customers in this market seek facilities which require little or no advance payments and which require little evaluation time on the part of the customer.

- Facilities favored are Mutual Aid and Service Bureau.

- Customers do not demand that 100% of their work be processable at the facility in the event of a disaster.

- Access to the site is not guaranteed, nor is compatibility into the future.

- In most cases the arrangements between the user and the recovery facility are either on a handshake or non-binding document basis.

EXHIBIT III-3

REVENUE FORECAST BY MARKET SEGMENT
($M)

MARKET SEGMENT	ANNUAL REVENUES PER YEAR			
	1979	1980	1981	1984
A. LOW COST/ CASUAL	0	0	0	0
B. SLOW ACCESS- BATCH	0.9	1.2	2.6	12.0
C. FAST ACCESS- BATCH	2.4	3.0	6.0	18.0
D. TP ACCESS	0	1.0	5.0	52.0
TOTAL	3.3	5.2	13.6	82.0

EXHIBIT III-4

REVENUE FORECAST BY PRODUCT OFFERING
($M)

PRODUCT OFFERING	ANNUAL REVENUES PER YEAR			
	1979	1980	1981	1984
VENDOR HARDWARE (BATCH)	2.4	3.0	6.0	18.0
VENDOR HARDWARE (TP)	0	1.0	5.0	52.0
TOTAL VENDOR HARDWARE	2.4	4.0	11.0	70.0
VENDOR SHELL	0.4	0.6	1.3	6.0
TOTAL DISASTER RECOVERY SERVICES	2.8	4.6	12.3	76.0
CO-OP	0.5	0.6	1.3	6.0
TOTAL SHELL①	0.9	1.2	2.6	12.0
TOTAL	3.3	5.2	13.6	82.0

① TOTAL SHELL = VENDOR SHELL PLUS CO-OP

- While customers attempt to locate facilities which are the most compatible and reliable, the primary benefits sought are (a) to state that "we have a Disaster Recovery facility" to top management and auditors, (b) to minimize front-end (i.e., pre-disaster) costs, and (c) to minimize staff resource time required to set it up.

b. Customer Characteristics (Reference: Exhibits IV-11, IV-12, IV-13, and IV-14)

- Customers for this segment tend to be Medium size installations with Single Sites.

- Top management usually has "little" concern about Disaster Recovery capabilities.

- Although this approach is favored slightly more by firms requiring a "few days" access time, it was mentioned frequently by respondents requiring 24 hours or less.

c. Vendors

- Firms entering into Mutual Aid agreements typically are in the same industry and within the same metropolitan area. It is an "I'll help you if you help me" approach.

- Service Bureau firms offer Disaster Recovery facilities as another way to sell processing time. Almost every service bureau large enough to do part of the customer's processing is eligible, from the computer user's point of view. The Service Bureau most frequently mentioned by survey respondents was their local IBM data center.

d. Market Size And Trends

- Thirty-nine percent of the market (in terms of number of firms) is in the Low Cost/Casual segment.

- Market revenues (i.e., advance payments to guarantee availability) are negligible. In most cases no money exchanges hands until the Disaster Recovery facility is actually used.

- It is estimated that the Low Cost/Casual market segment will decline to 30% of the Model 145 or larger sites by 1981, and decline further to 20% by 1984 (Exhibit III-2).

e. Factors Affecting Growth

- Factors tending to increase market size:

  - Increasing requirement from auditors, etc. to have some type of Disaster Recovery facility. Some firms with no current facilities will take this first step into Disaster Recovery protection.

  - Aggressive marketing by Service Bureaus as they discover the increased interest in Disaster Recovery.

- Factors helping to decrease market size:

  - Increased emphasis by auditors, trade press, etc. that a Disaster Recovery facility must be very reliable (i.e., have guaranteed access and tested compatibility).

  - Increased use of TP which usually cannot be provided by the Low Cost/Casual vendors.

2. SEGMENT B: SLOW ACCESS-BATCH

a. Products And Benefits Sought

- Customers in this segment want guaranteed access for their batch work, but at a "reasonable price." (Currently they feel a "reasonable price" is under $15,000 per year for front-end payments.)

- This segment favors the Shell approach (Company Owned Shells, Co-op Shells, or Vendor Shells).

- This segment believes that the critical bottleneck in Disaster Recovery processing is obtaining a preconditioned site complete with raised flooring, air conditioning, and other environmental facilities. The hardware, they assume, will be delivered by the hardware vendor within a few days, on a priority basis.

b. Customer Characteristics (Reference: Exhibits IV-11, IV-12, IV-13, and IV-14)

- Interest in the Shell approach is relatively independent of the Computer Site Size or the existence of Multiple Sites. It is, however, very dependent upon perceived access speed. The nature of the Shell approach requires that the firm convince itself that, in fact, it can wait for several days (or even a week or two) while the hardware vendor expedites new equipment delivery.

- Shell facilities are twice as appealing to those firms indicating "some" management concern, as compared to those having management with "little" or "much" concern. The former tend to prefer the Low Cost/Casual approach, while the latter more frequently prefer Internal Back-up or Vendor Hardware.

c. Vendors

- Two providers of fixed (i.e., non-portable) Vendor Shells were mentioned by survey respondents - Data Processing Security, Inc. (DPS) of Hurst, Texas and

Datashield, based in Milwaukee. (See Chapter V, "Competitive Analysis," for additional information.)

- DPS has been promoting the Vendor Shell concept the most aggressively for the past 12 months. As a result, it is the most widely known provider of this type of service.

- Randolph Engineering, Austin, Texas, has recently announced the availability of a portable Shell, mounted on trailers for delivery to the customers chosen site.

- Co-op Shells have been tried with varying degrees of success. The one gaining the most publicity to date has been the Minneapolis-St. Paul group which is being spearheaded by Northern States Power of Minneapolis. This Shell is not in operation yet, but claims to have almost two dozen interested firms.

- A Co-op Shell group was formed in Chicago the first part of 1979, but has had organizational problems ("we couldn't get people to agree") and is now in limbo.

- An attempt is underway now to organize a Co-op in Dallas.

d. Market Size And Trends

- Market revenues for 1979 are estimated at $0.9 million. Of this amount, $0.5 million is from Co-op users and $0.4 million is Vendor Shell customers.

- Shell revenues will grow to $1.2 million by 1980, $2.6 million by 1981, and $12 million by 1984 (Exhibits III-3 and III-4). By 1984, 18% of all Model 145 and above users will be Shell customers, but the market revenues will only be one-sixth of the $70 million revenue from Vendor Hardware.

e. Factors Affecting Market Growth

- Factors tending to increase market size:

  - For many firms, Shells represent a financial compromise between the Casual approach with its lack of reliability and Vendor Hardware with its perceived high cost. Thus, as the awareness of the importance of having a Disaster Recovery facility increases, more firms will seriously consider this approach.

  - The Shell concept has credibility since a number of firms are taking this approach.

  - Shells present fewer evaluation variables than Vendor Hardware (e.g., compatibility is not an issue since equipment is custom orderd, thus it is an "easier" decision).

- Factors tending to decrease market size:

  - As more firms develop applications that penetrate to the heart of a firm's operations, the organization will become increasingly dependent upon data processing. As this happens the company will gradually become less able to function for even a few days without computer resources. For these organizations, the Shell approach will prove too slow.

  - As organizations utilize more hardware from smaller vendors, they find that those organizations are not able to respond with expedited replacement equipment as rapidly as the large mainframe companies. This makes the Shell a less viable approach.

  - As firms place more applications on-line, the lack of compatible TP at the Shell negates its appeal.

3. SEGMENT C: FAST ACCESS-BATCH

a. Products And Benefits Sought

- The key need of this segment is for on-site hardware with guaranteed access.

- Buyers in this segment want the most reliable facility available in the fastest possible time.

- Customers feel they cannot afford to wait for a hardware vendor to deliver equipment to a Shell. As a result, they are willing to pay an additional price for the comfort of knowing that they can access that site within a few hours notice.

- They want not only on-site hardware, but also all of the attendent support facilities required to handle Disaster Recovery processing for an extended time. They want the ability to test the facilities to ensure that it is, in fact, workable.

- Customers of this segment want the vendor to have the potential of handling their TP needs. This includes having people available that can assist them in evaluating the best approaches.

- Many customers of this segment are in the midst of developing Disaster Recovery Plans and desire guidance and assistance.

- The two most favored options of this segment are Internal Back-up and Vendor Hardware.

b. Customer Characteristics (Reference: Exhibits IV-11, IV-12, IV-13 and IV-14)

- This segment is popular with firms across the spectrum of characteristics analyzed (i.e., Site Size, Number of Sites, Management Concern, and Access Speed).

- There is a noticeable difference, however, in the characteristics of firms which prefer Vendor Hardware rather than the Internal Back-up solution.

- Those favoring Vendor Hardware tend to:

  - Have Medium Size sites.

  - Have Single rather than Multiple sites.

  - Be Banks and Manufacturers.

- Those favoring Internal Back-up tend to:

  - Have Large to Very Large Sites.

  - Have Multiple Sites.

  - Have Management with "much" concern.

  - Require Access Speeds of 8-24 hours.

c. Vendors

- Several vendors offering on-site hardware were identified in the survey. The most active are:

  - Sungard, a service of Sun Information Services, Philadelphia.

  - Shared Standby Systems, a subsidiary of Shared Medical Systems, King of Prussia, Pennsylvania.

  - Contingency Group, Inc., Chicago, Illinois.

- Sungard is regarded as the oldest and most widely known of the vendors.

- Another vendor, Computer Research Corporation, Chicago, was offering a service called Failsafe. They are no longer taking new subscribers. They imply the plan is "filled up" and that they are now evaluating the feasibility of offering a new plan in the future.

- Chapter V, "Competitive Analysis," analyzes these vendors in more depth.

d. Market Size And Trends

- Revenues for Vendor Hardware-Batch for 1979 are estimated at $2.4 million (Exhibit III-4). This will grow to $3 million by 1980, $6 million by 1981, and $18 million by 1984. By 1984 5% of the Model 145 and above sites are forecast to be Vendor Hardware-Batch customers (versus 1.6% now).

- Internal Back-up users will increase from 22% of Model 145 and above sites in 1979, to 27% in 1980, 32% in 1981, and 40% by 1984. The dollar expenditures for Internal Back-up are internal budget items of the firms, and thus are not forecast in this report.

e. Factors Affecting Market Growth

- Factors tending to decrease market size:

  - Increasing computerization of a firm's operations is making the company more dependent upon its daily availability.

  - Governmental legislation is placing more emphasis on the responsbility of the board of directors to install proper safeguards as protection against significant risks.

  - The trade press is giving active coverage to the experiences of those firms which experience a disaster.

- Factors tending to increase market growth for Internal Back-up:

- The main deterent to Internal Back-up is the possibility of vendors offering on-site hardware with features and pricing that is beyond the capabilities of the firm's internal resources. Imaginative vendors could conceivably attract enough customers such that economies of scale would make Internal Back-up less attractive.

- Distributed Processing - It decentralizes computing and thus provides a firm with more internal back-up options. In addition, it decreases the impact of the failure of any one site.

- Need to locate back-up for their TP facilities.

4. SEGMENT D: TP ACCESS

a. Products And Benefits Sought

- Customers comprising this segment want fast, reliable back-up for their most critical batch and TP applications.

- They want on-site mainframes and TP hardware, and the ability to switch to it in a matter of hours.

- They want all of the support services sought by the Fast Access-Batch segment, plus extensive TP help.

- Currently the only solution available to this segment is Internal Back-up. This, however, is very expensive and thus infrequently used.

b. Customer Characteristics (Reference: Exhibits IV-11, IV-12, IV-13, and IV-14)

- Vendors considering approaching this segment will find that a wide spectrum of firms are potential prospects. Medium, Large, and Very Large firms will be interested, as will those with both Single and Multiple Sites. The most

consistent characteristic of this segment will be that their senior management will have "much" concern about Disaster Recovery.

- This segment will be the most price insensitive of the market segments identified in this survey.

c. Vendors

- There are currently no vendors which directly address this market. Existing on-site hardware vendors emphasize their TP expertise and facilities, but thus far appear to have confined their activities to helping their customers form sub-pools for specialized TP needs.

d. Market Size And Trends

- This segment's revenues are zero for 1979 since no vendor offers full TP back-up. However, this market is forecast to grow to $1 million in 1980, and to $5 million in 1981. By 1984, TP Access will increase to $52 million and will comprise 68% of the Disaster Recovery Service market revenues (Exhibits III-3 and III-4).

e. Factors Affecting Market Growth

- Factors tending to increase market size:

  - On-line processing continues to become more popular with firms of all sizes. As on-line applications are implemented, the old manual or automated batch way of performing the function becomes obsolete. Firms are increasingly finding that their only alternatives are TP back-up, or postponement of processing. The latter is becoming untenable.

- Factors tending to decrease market size:

- As with the Fast Access-Batch segment, the advent of Distributed Processing enables a firm to decrease the impact of the failure of any one site, while also providing alternate means of handling Disaster Recovery processing on an internal basis. This represents a viable alternative to a vendor approach to this market.

IV SURVEY RESULTS

IV SURVEY RESULTS

A. THE DISASTER RECOVERY ISSUE

- Disaster Recovery is considered to be just one aspect of the larger issue of "Data Processing Security" (Exhibit IV-1).

- Funds for Disaster Recovery facilities compete directly with other security proposals. A number of respondents indicated that "the more we spend on security protection methods, the less we feel we will need a Disaster Recovery arrangement."

- There is an increasing awareness that Disaster Recovery facilities will not be effective unless a detailed "Disaster Recovery Plan" is developed, published, and continuously updated.

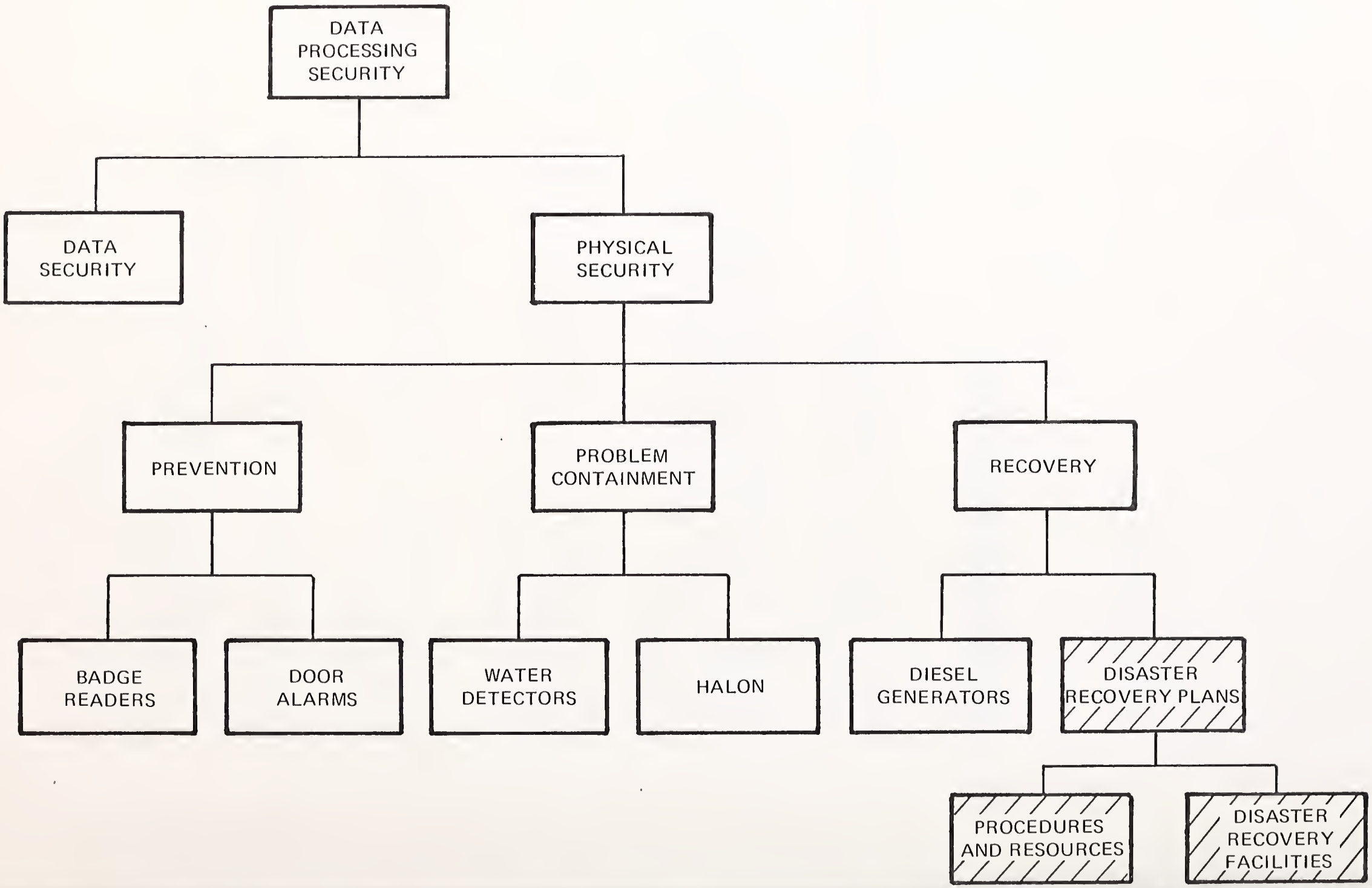
- A Disaster Recovery Plan is a documented description of the resources, procedures, and decisions required of the firm before, during, and after a disaster occurs.

- Developing a Disaster Recovery Plan is not an easy task:

  - It requires a complex analysis of risks, loss potential, priorities, procedures, resources, and facilities.

EXHIBIT IV-1

DISASTER RECOVERY IS PART OF "DATA PROCESSING SECURITY"



INPUT

- It requires a significant investment in time and personnel. A well conceived and realistic Plan may take over two years to develop and involve one or more persons full-time.

- It requires information and involvement from many people, including DP management and staff, end users, and top management of the firm.

- It must be a continuous activity. As applications, priorities, equipment, and personnel change, the Plan must be revised.

- Over one-half (56%) of the survey respondents stated they had a Disaster Recovery Plan of some type (Exhibit IV-2).

- Less than one-third (28%) of those interviewed had a Disaster Recovey Plan that had been tested.

- Forty-nine percent of those with Plans had developed them prior to 1978. Reviews were conducted by 80% of those with Plans, but no indication was given of the thoroughness of such examinations.

- A number of firms admitted that there was a big difference between "having a Plan" and "having a Plan that would work if a disaster occurred." Even though 80% of those with a Plan indicated that top management was "satisfied with it," many of the respondents admitted that top management did not have the expertise to judge the quality of the Plan. Many survey participants admitted that their Plan needed much additional work.

EXHIBIT IV-2

STATUS OF DISASTER RECOVERY PLANS

STATUS OF PLAN	PERCENT OF ALL RESPONDENTS	PERCENT OF NON-DRS USERS	PERCENT OF DRS USERS
A. HAVE A PLAN	56%	56%	80%

B. DATE PLAN COMPLETED	PERCENT OF ALL RESPON-DENTS	PERCENT OF THOSE WITH A PLAN		
		TOTAL	PERCENT OF NON-DRS USERS	PERCENT OF DRS USERS
BEFORE 1978	27%	49%	52%	29%
1978	6%	10%	11%	0%
1979 - FIRST HALF	14%	25%	23%	43%
TOTAL: PAST COMPLETION	47%	84%	86%	72%
FUTURE COMPLETION 1979 - SECOND HALF	9%	16%	14%	28%
TOTAL: PLAN COMPLETED	56%	100%	100%	100%
C. TOP MANAGEMENT IS SATISFIED WITH PLAN	46%	80%	80%	83%
D. PLAN HAS BEEN TESTED	28%	49%	50%	43%
E. PLAN IS REVIEWED AND UPDATED REGULARLY	46%	80%	80%	75%

B. DISASTER RECOVERY FACILITIES

1. DEGREE OF INTEREST

- Respondents exhibited much interest in Disaster Recovery facility evaluation issues.

- Over 80% of the firms contacted for the survey readily agreed to participate in the survey in exchange for a summary of the survey results.

- Almost two-thirds (64%) of those interviewed currently have a Disaster Recovery facility of some type.

- Many firms are "rethinking" the status of their DR facilities:

  - Over one-half (57%) are currently investigating facilities.

  - One out of four of those firms investigating facilities are doing so even though they report their organization is "satisfied overall" with their current arrangements.

  - One-third (34%) expect to change their current facility arrangement within the next 12 months.

  - Committing funds for DR facilities was "highly likely" for 38% of those interviewed.

- Eleven different approaches to Disaster Recovery processing were identified by survey participants (Exhibit IV-3). Definitions of each option are in the Appendix of this report.

EXHIBIT IV-3

DISASTER RECOVERY OPTIONS MENTIONED

TYPE	OPTIONS
A. NON-GUARANTEED ACCESS	A1. NO FACILITIES ("NONE") a. DO MANUALLY b. POSTPONE c. FIND HELP WHEN NEEDED A2. CASUAL a. MUTUAL AID b. SERVICE BUREAU
B. GUARANTEED ACCESS	B1. INTERNAL BACK-UP a. COMPANY HARDWARE b. COMPANY SHELL B2. SHELL a. VENDOR SHELL (FIXED) b. VENDOR SHELL (PORTABLE) c. CO-OP SHELL B3. VENDOR HARDWARE

2. AWARENESS OF DISASTER RECOVERY SERVICES

- Respondents had a high level of awareness of Disaster Recovery Services, considering that only in the past 12 months have vendors begun to actively market them.

- As shown in Exhibit IV-4, 88% of the respondents are familiar with the concept of DRS, and 57% could name at least one vendor.

- This widespread awareness of DRS results from the combination of aggressive vendor promotion, increasing trade press coverage, availability of educational seminars, and the willingness of the computer executives to listen and remember what is being said.

3. ACCESS SPEED REQUIREMENTS

- Firms interviewed had significantly different attitudes concerning how quickly they would need access to a facility in the event of a disaster (Exhibit IV-5).

  - While 45% were happy with access within a "few days," 19% felt that access in "under eight hours" was important.

  - Most (55%) felt that an access time of 24 hours or less was desirable.

  - Individual responses ranged from "four hours" to "several weeks."

4. SENIOR MANAGEMENT CONCERN

- Exhibit IV-6 indicates that senior (non-data processing) management has a wide spectrum of concerns about the issue of Disaster Recovery for their computer site(s).

  - Forty percent of the respondents believed senior management had "much" concern.

EXHIBIT IV-4

LEVEL OF AWARENESS OF
DISASTER RECOVERY SERVICES

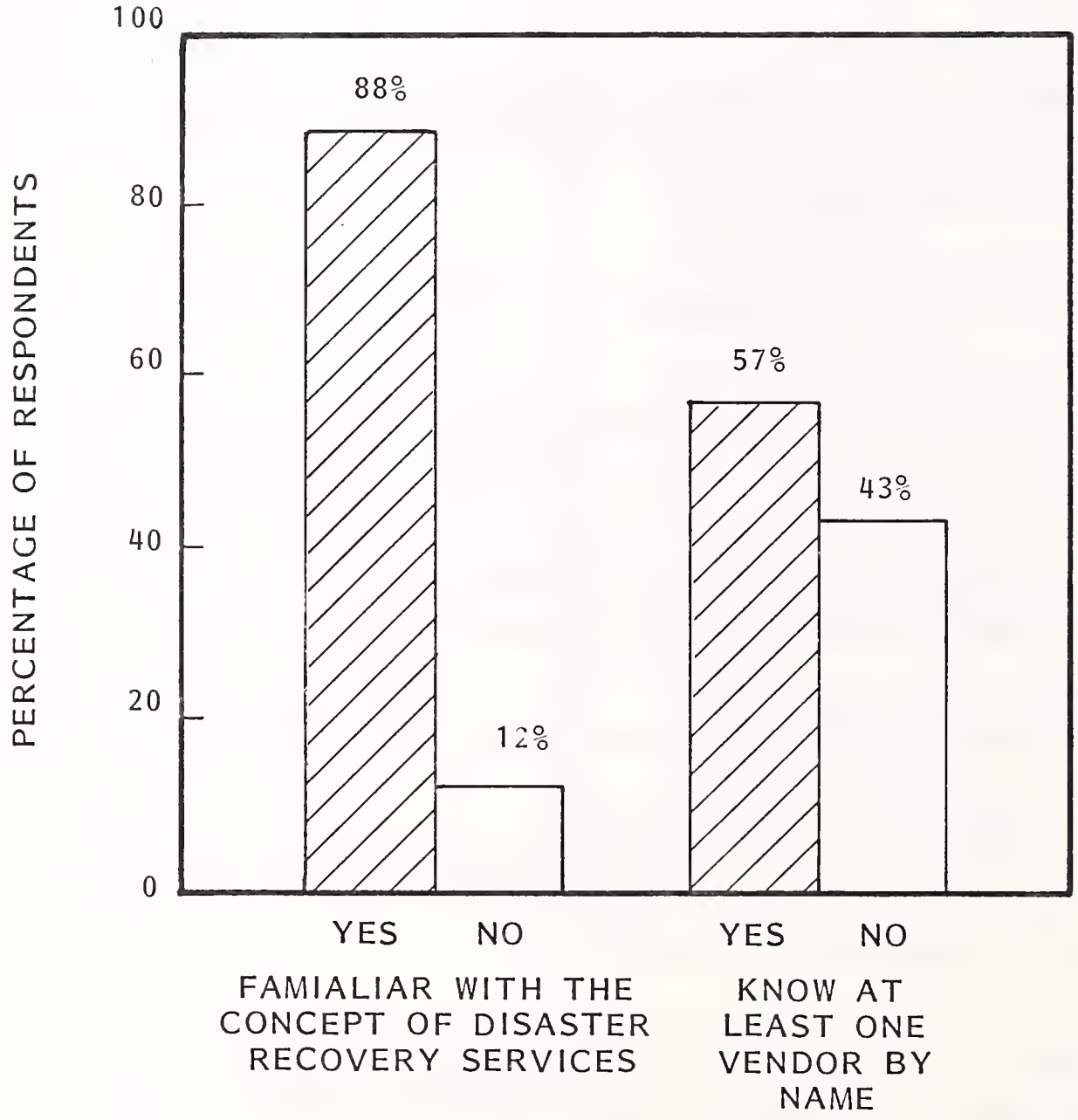
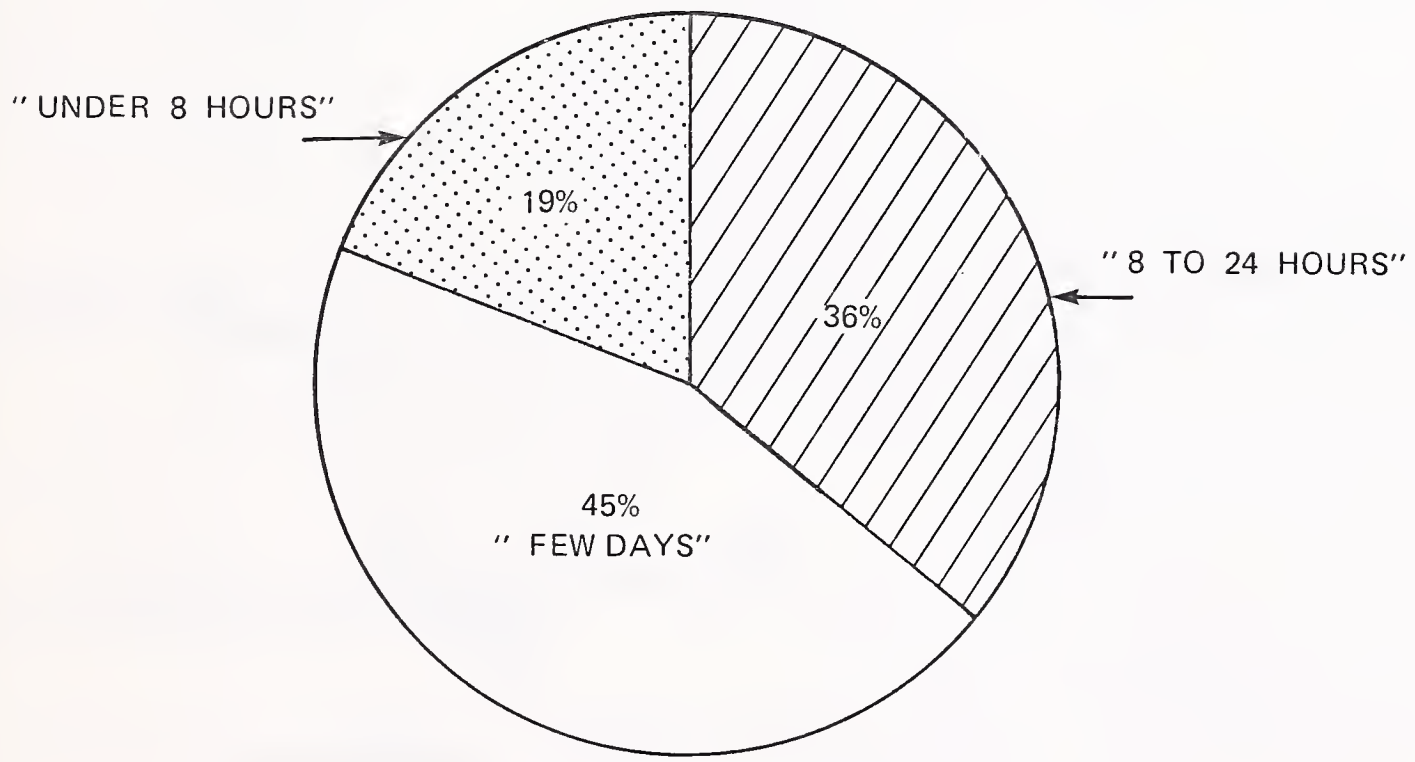


EXHIBIT IV-5

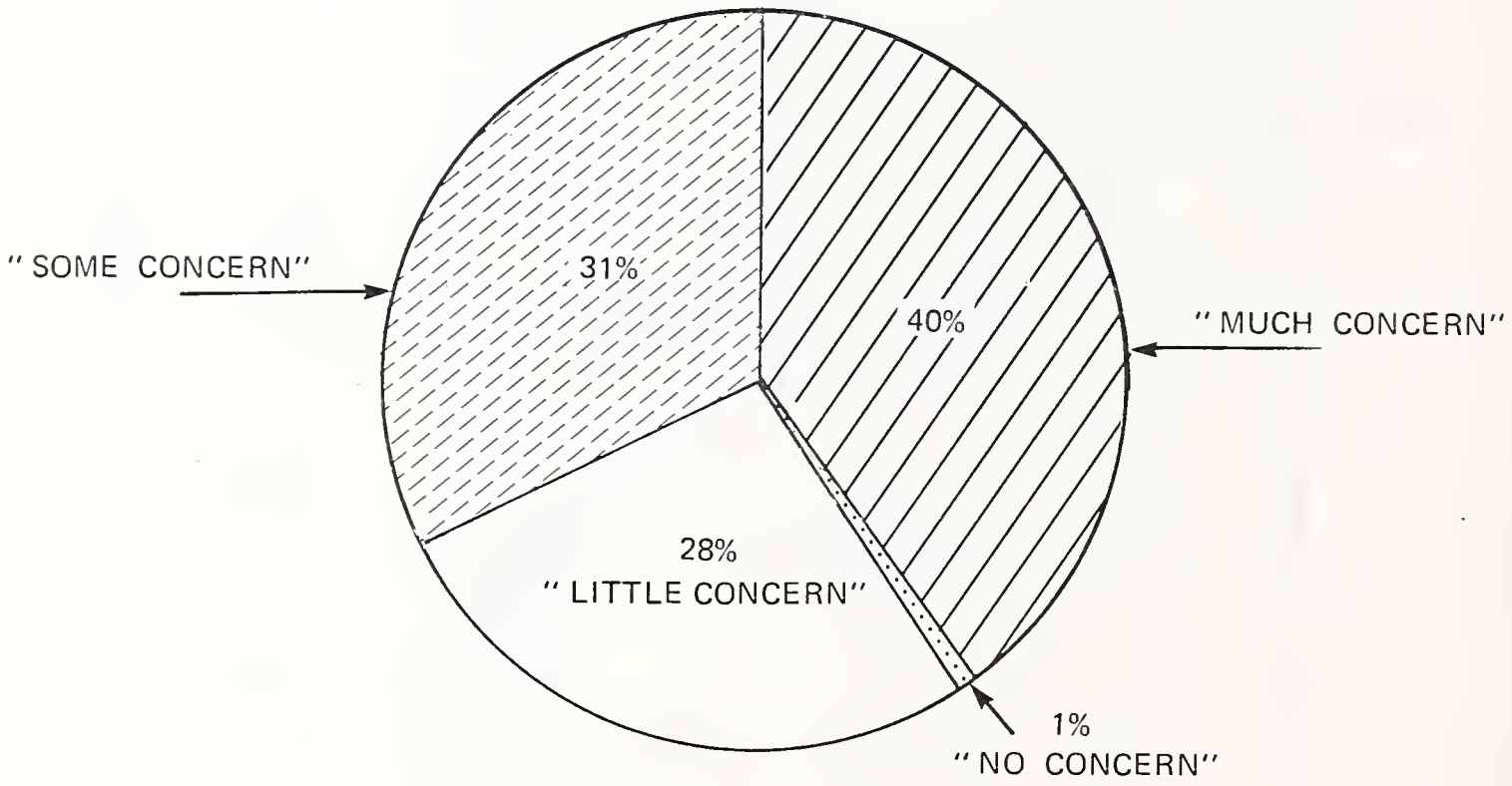
DISASTER RECOVERY FACILITY
ACCESS SPEED REQUIREMENTS



RANGE OF ANSWERS = "4 HOURS" TO "SEVERAL WEEKS"

EXHIBIT IV-6

DEGREE OF SENIOR (NON-DATA PROCESSING)
MANAGEMENT CONCERN ABOUT DISASTER RECOVERY
(% OF RESPONDENTS)



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- Almost one in three (29%), however, felt senior management had "little" or "no" concern.

5. ESSENTIAL APPLICATIONS

- Fully 93% of those interviewed indicated that one or more computer applications were "essential to the firm's daily operations."

- Exhibit IV-7 shows the most frequently mentioned applications by industry.

  - Close to one-half of all applications mentioned were accounting functions.

  - Payroll was the most frequently mentioned accounting application.

  - However, 78% of those industries listed in Exhibit IV-7 had a non-accounting application as the most frequently mentioned critical function.

C. FACILITY PREFERENCES

1. "CURRENT" VERSUS "FAVORED" FACILITIES

- Exhibits IV-8 and IV-9 summarize the Disaster Recovery facility preferences of survey participants.

- As shown in Exhibit IV-8, Guaranteed Access facilities (Internal Back-up, Shell, and Vendor Hardware), although comprising only 25% of the current facilities, constitute 59% of the "favored" facilities.

- Non-Guaranteed Access arrangements (Casual and No Facilities) decline from a "current" usage of 75% to a "favored" usage of 41%.

EXHIBIT IV-7

MOST COMMONLY CITED APPLICATIONS CONSIDERED
"ESSENTIAL TO THE FIRM'S DAILY OPERATIONS"
(SEQUENCED BY FREQUENCY OF MENTIONS)

BANKING	EDUCATION	GOVERNMENT
[1.] DEMAND DEPOSIT	1. PAYROLL	[1.] WELFARE
[2.] SAVINGS	[2.] STUDENT INFO.	[2.] POLICE
3. "ALL"	3a. ACCOUNTS PAYABLE	3a. ACCOUNTING
4. ACCOUNTING	3b. ACCOUNTING	[3b.] VEHICLE AND LICENSING
[5.] CREDIT CARDS	[3c.] INSTRUCTIONAL SYSTEMS	[3c.] POLICE
[6.] LOANS	[3d.] PERSONNEL	[3d.] PROPERTY
		[3e.] SCHOOLS

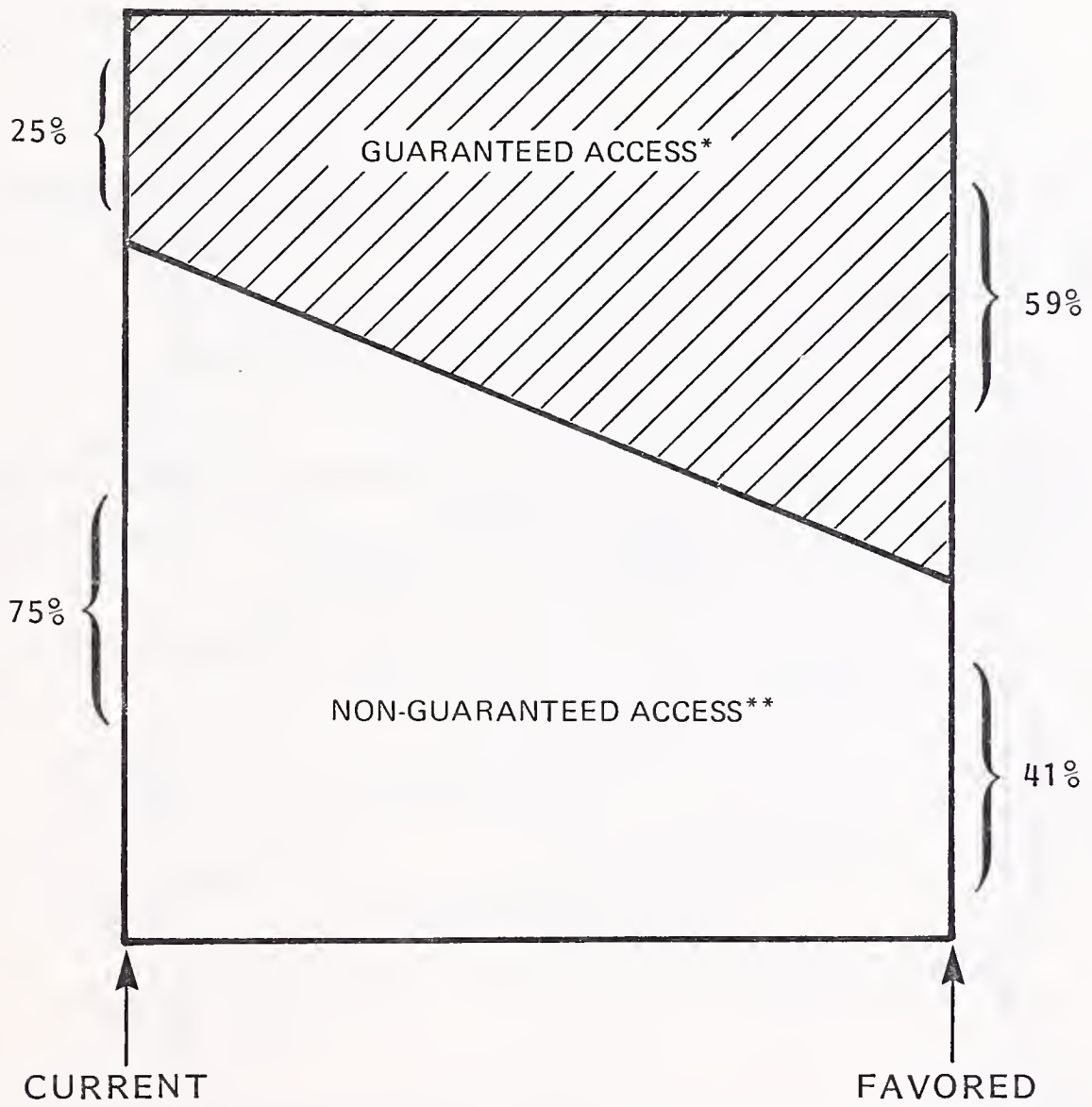
INSURANCE	MANUFACTURING	RETAIL
[1.] POLICY MASTER FILE	1. PAYROLL	[1.] CREDIT AUTHORIZATION
2. BILLING	[2.] ORDER ENTRY	[2.] INVENTORY
3a. ACCOUNTING	3. ACCOUNTS PAYABLE	3. ORDER PROCESSING
3b. ADMINISTRATIVE	4. ACCOUNTS RECEIVABLE	3b. BILLING
[3c.] ACTUARIAL	[5.] INVENTORY	[3c.] SALES REPORTING
	6. ACCOUNTING/ FINANCIAL	3d. ACCOUNTING

TRANSPORTATION	UTILITIES	WHOLESALE
[1a.] DISPATCHING	[1.] CUSTOMER INFORMATION	[1a.] ORDER ENTRY
1b. ACCOUNTING	2. PAYROLL	[1b.] INVENTORY
[1c.] TRAFFIC	[3a.] ORDERS	1c. ACCOUNTS RECEIVABLE
	3b. BILLING	
	3c. ACCOUNTS PAYABLE	
	3d. ACCOUNTS RECEIVABLE	

[ ] = NON-ACCOUNTING APPLICATIONS

EXHIBIT IV-8

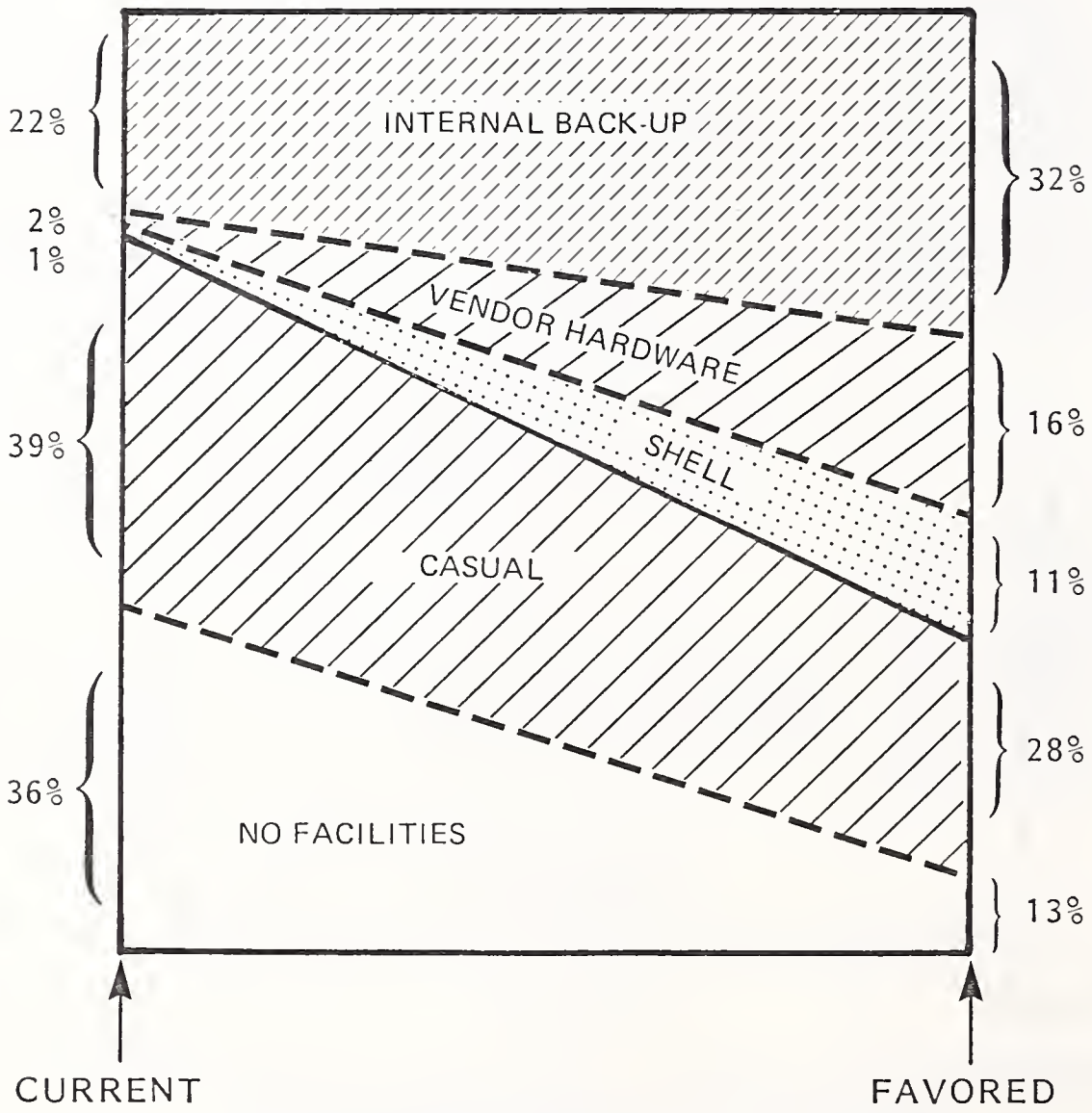
GUARANTEED ACCESS VERSUS NON-GUARANTEED ACCESS DISASTER RECOVERY FACILITY PREFERENCES



*"INTERNAL BACK-UP" PLUS "SHELL" PLUS "VENDOR HARDWARE"
**"CASUAL" PLUS "NO FACILITIES"

EXHIBIT IV-9

"CURRENT" VERSUS "FAVORED"
DISASTER RECOVERY FACILITIES



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- All three of the Guaranteed Access facilities are showing large increases over their current usage (Exhibit IV-9).

  - Internal Back-up increases from 22% to 32%.

  - Vendor Hardware goes from 2% to 16%.

  - Shell goes from 1% to 11% of survey respondents.

- Although Casual was the most frequently mentioned current facility (39%), only 28% "favor" it at the present time.

- While having No Facilities was characteristic of 36% of the current arrangements, this approach declines to only 13% of the "favored" options.

2. BEST AND WORST OF EACH FACILITY TYPE

- The best and worst aspects of each facility type, as determined by responses from survey participants, are summarized in Exhibit IV-10.

- Most of the responses dealt with:

  - Cost.

  - Whether or not access was guaranteed.

  - Access speed.

  - Compatibility of the equipment.

  - Distance from the respondent's computer site.

  - TP equipment availability.

EXHIBIT IV-10

BEST AND WORST ASPECTS OF
FOUR TYPES OF DISASTER RECOVERY FACILITIES
(PRIORITIZED)

DISASTER RECOVERY FACILITY	"BEST"	"WORST"
CASUAL	1. LITTLE OR NO COST 2. FLEXIBILITY 3. CLOSENESS 4. SATISFIES AUDITORS	1. ACCESS NOT GUARANTEED 2. COMPATIBILITY UNCERTAIN 3. NO TP
SHELL	1. LOW COST 2. CLOSENESS 3. GUARANTEED ACCESS	1. LITTLE TP 2. SLOW ACCESS 3. CAN'T AGREE (CO-OPS)
INTERNAL BACK-UP	1. GUARANTEED ACCESS 2. COMPATIBILITY 3. CONTROL	1. COST 2. DISTANCE TOO FAR 3. NOT TESTED
VENDOR HARDWARE	1. GUARANTEED ACCESS 2. COMPATIBILITY 3. FAST ACCESS	1. HIGH COST 2. INCOMPATIBILITY 3. DISTANCE TOO FAR 4. MULTIPLE DISASTERS 5. FINANCIAL STABILITY 6. LITTLE TP

- Whereas "little or no cost" was seen as the best aspect of Casual and Shell facilities, it was considered the worst aspect of Internal Back-up and Vendor Hardware.

- "Closeness" was seen as advantageous to Casual and Shell arrangements, but lack of closeness was a frequently mentioned disadvantage of Internal Back-up and Vendor Hardware.

- Lack of TP facilities was mentioned as one of the worst aspects of each of the four options, except Internal Back-up.

3. PREFERENCE DIFFERENCES

- Preferences for the Casual, Internal Back-up, Shell, and Vendor Hardware options vary according to:

  - CPU Size of the firm's main site.

  - Whether the firm has a Single Site (one Model 148 or larger), or have Multiple Sites (two or more additional sites, also with a Model 148 or larger).

  - Degree of senior management concern toward Disaster Recovery.

  - Access Speed requirements.

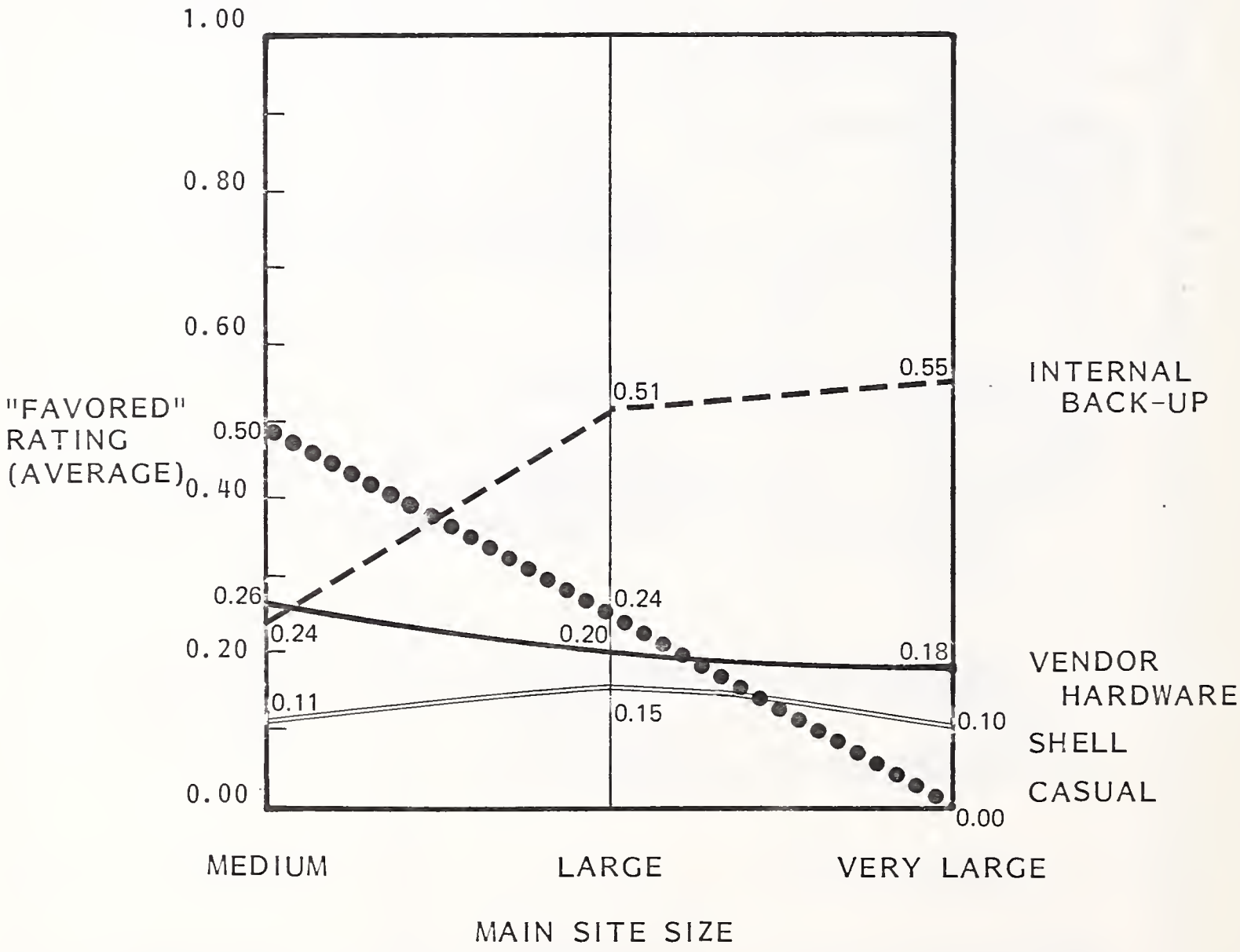
  - Industry sector.

- When facility preferences are categorized by CPU size of the firm's main site (Exhibit IV-11):

  - The Casual option declines from the most favored facility among Medium Size sites (0.50 rating) to the least favored arrangement for Very Large sites (0.00 rating).

EXHIBIT IV-11

"FAVORED" DISASTER RECOVERY FACILITY
(BY MAIN SITE SIZE)



RATING SCALE

1 = FAVORED

0 = NOT FAVORED

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- Internal Back-up, on the other hand, is significantly more popular with Large and Very Large sites (0.51 and 0.55, respectively) as compared to Medium size departments (0.24).

- Shells remain close to the same level of popularity regardless of site size (0.10 to 0.15).

- Vendor Hardware is also relatively steady among different site sizes, although Medium size sites have a slightly stronger (0.26) preference for it than do larger sites (0.20 and 0.18).

- As shown in Exhibit IV-12, classifying facility preferences by Single versus Multiple Site firms reveals that:

  - Casual arrangements are more popular with Single sites than with Multiple ones (0.41 versus 0.23).

  - Internal Back-up is more popular with multiple site firms (0.66) than with Single site organizations (0.26). However, even with Single site firms, Internal Back-up is the second most favored option. This indicates that Single site firms anticipate the establishment of second site of sufficient size to handle their disaster recovery requirements or else that they already have a second site (smaller than one Model 148) that can handle at least some of their disaster recovery requirements.

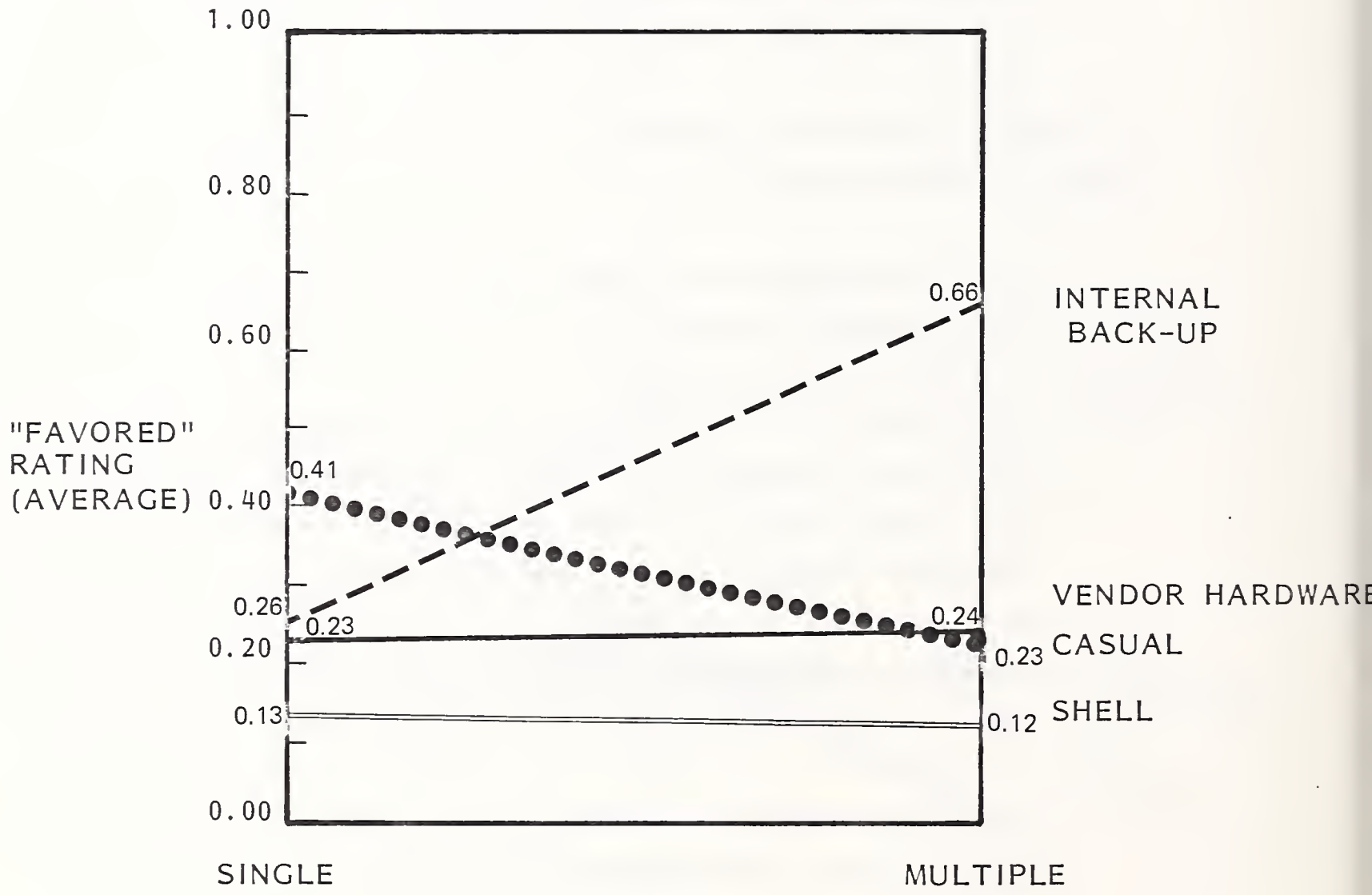
  - Both Vendor Hardware and Shells retain close to the same level of popularity among both Single and Multiple sites.

  - Vendor Hardware is close to twice as popular (0.23 and 0.24) as Shells (0.13 and 0.12), based on the rating averages.

- Facility preferences profiled by "degree of senior management concern towards Disaster Recovery" are shown in Exhibit IV-13.

EXHIBIT IV-12

"FAVORED" DISASTER RECOVERY FACILITY
(BY NUMBER OF SITES)



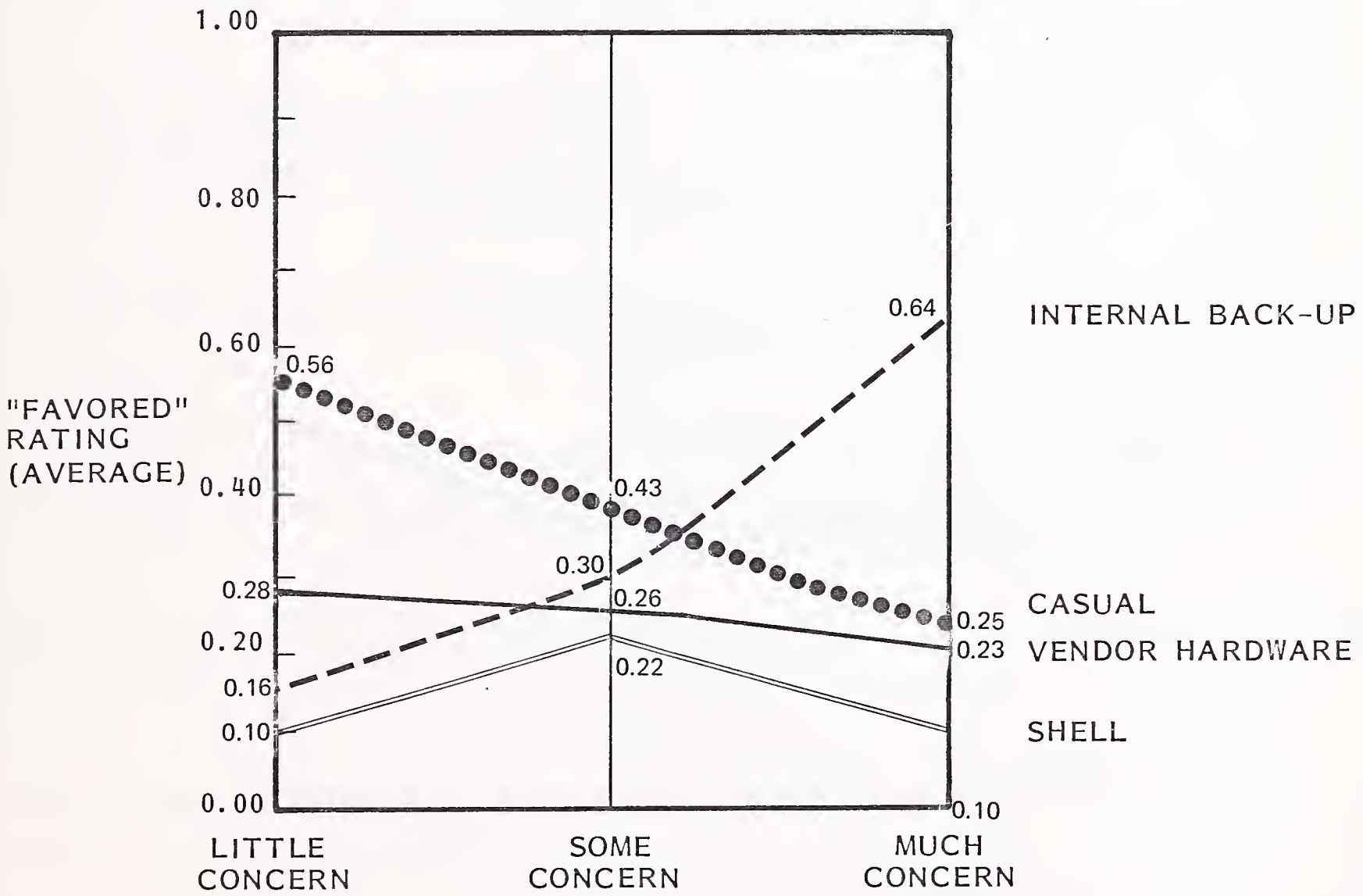
RATING SCALE

1 = FAVORED

0 = NOT FAVORED

EXHIBIT IV-13

"FAVORED" DISASTER RECOVERY FACILITY
(BY DEGREE OF SENIOR MANAGEMENT CONCERN)



RATING SCALE

1= FAVORED

0 = NOT FAVORED

- Casual's average rating drops by 50% (0.56 to 0.25) as senior management concern increases from "little" to "much."

- Internal Back-up, in contrast, increases four fold (from 0.16 to 0.64) as concern varies from "little" to "much."

- Shell facilities come very close to being as popular as Vendor Hardware with those firms with "some" senior management concern. Among those organizations with "little" or "much" concern, however, Shells are less than half as popular as Vendor Hardware.

- Vendor Hardware has a relatively steady appeal independent of the degree of management concern, although firms with "little" management concern rate this option slightly higher.

- Exhibit IV-14 shows "favored" facilities according to how fast a firm wishes to access it in the event of a disaster.

  - Casual is the most preferred facility (0.48) among those firms willing to have an access of a "few days." It is the second most popular option among firms desiring faster access speeds.

  - Internal Back-up is the most popular option with firms wanting access speeds of 24 hours or less.

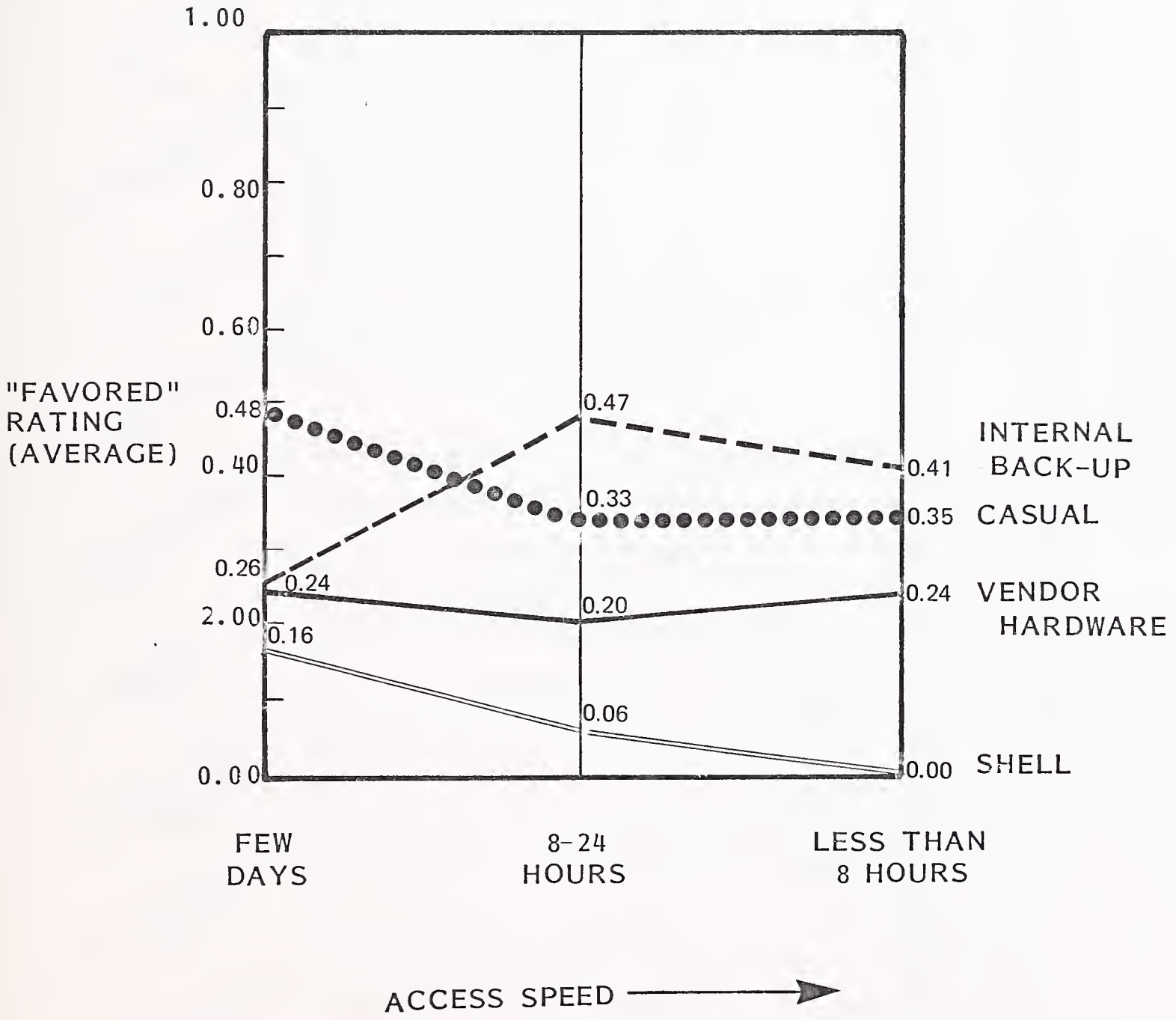
  - Shell facilities have declining popularity as the access speed increases, with no firms favoring it which have "less than eight hour" access requirements.

  - Vendor Hardware has a reasonably constant appeal independent of access speed (0.20 to 0.24).

- The number of firms favoring Vendor Hardware varies considerably by industry (Exhibit IV-15).

EXHIBIT IV-14

"FAVORED" DISASTER RECOVERY FACILITY
(BY ACCESS SPEED)

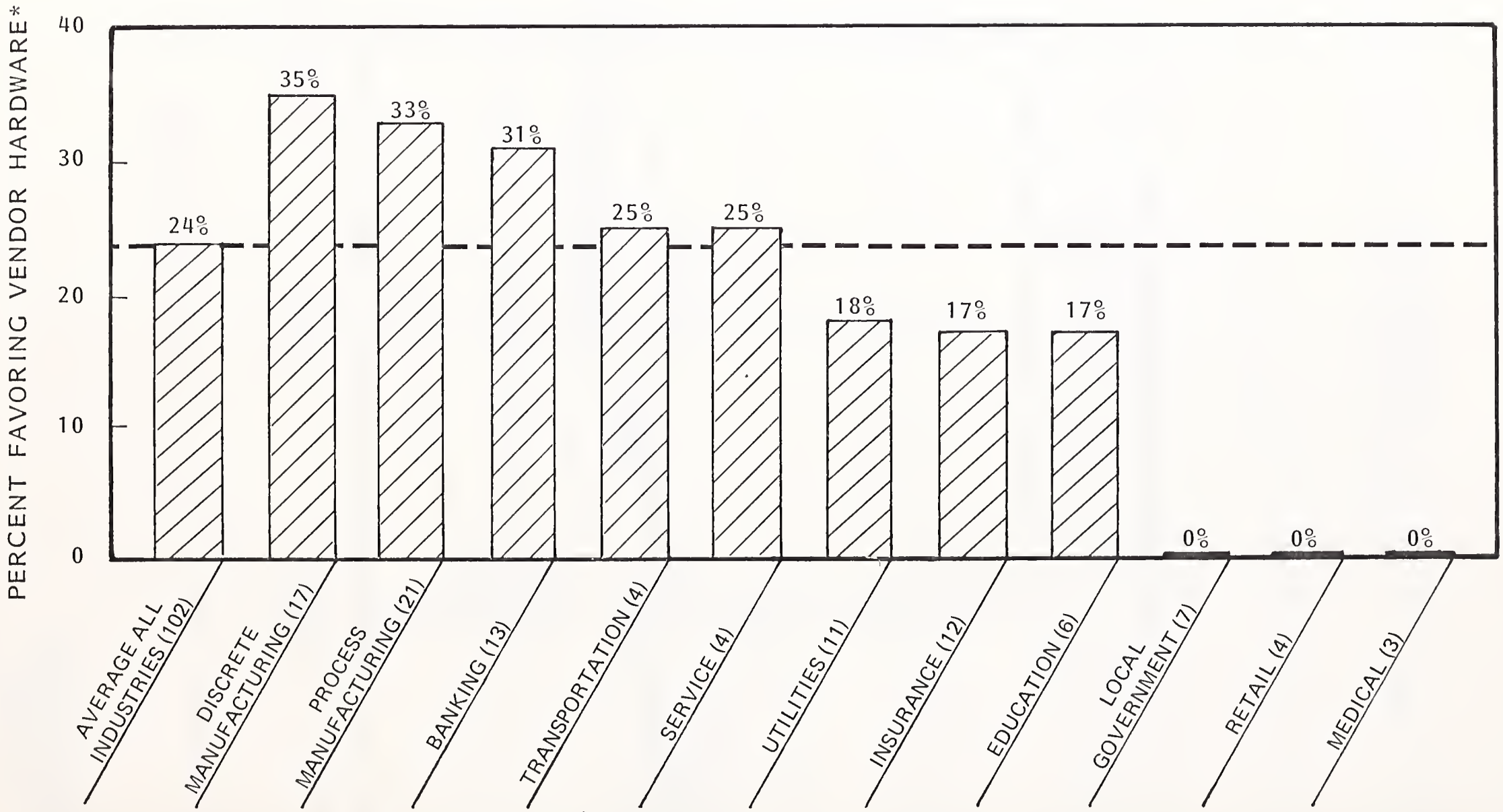


RATING SCALE

1 = FAVORED
0 = NOT FAVORED

EXHIBIT IV-15

"VENDOR HARDWARE" PREFERENCES (BY INDUSTRY)



* = NON-DRS USERS ONLY
( ) = NUMBER OF RESPONDENTS

- Industries favoring Vendor Hardware by the greatest margin are Discrete Manufacturing (35% of respondents), Process Manufacturing (33%), and Banking (31%).

- Those industries least interested in Vendor Hardware are Retail, Medical, and Local Government (all with 0%).

4. POPULARITY OF INTERNAL BACK-UP

- As firms look to the future, Internal Back-up is the most consistently popular option. When asked to specify which facility type they favored (Vendor Hardware, Shell, Internal Back-up, or Casual), the largest number of respondents selected Internal Back-up.

- Among those with Multiple Sites, the Internal approach was rated 0.66 (Exhibit IV-12). Even those with Single Sites preferred Internal Back-up over Vendor Hardware and Shells.

- As discussed earlier (Exhibit IV-10), Internal Back-up is perceived by respondents to offer the advantages of Vendor Hardware and Shells (guaranteed access, compatibility). Another advantage is that it offers control.

- While most firms favored having on-site hardware for Internal Back-up, a number of firms are considering a "company shell" approach if on-site hardware is not available within the firm.

- Several companies indicated that while they preferred Internal Back-up, they were willing to consider Vendor Hardware as an intermediate step. For these firms, the establishment of a viable Internal Back-up capability was a sufficiently large task such that a relatively short contract (e.g. two years) with a Vendor Hardware supplier was a potentially attractive option.

- Some computer executives were not as optimistic about the reliability of an Internal Back-up approach. They felt that any unused internal computing

capacity would eventually disappear, thereby leaving them with the same problem of no Disaster Recovery facility. Several also mentioned that the problem of maintaining compatibility within two internal company sites was extremely difficult. Oftentimes there was not sufficiently strong centralized control (or dedication) to assure that such compatibility would be achieved and maintained.

D. ATTITUDES TOWARD DISASTER RECOVERY SERVICES

1. DRS DECISION IS COMPLEX AND VERY SUBJECTIVE

- Disaster Recovery Services (Vendor Hardware and/or Vendor Shell) are viewed by respondents as a new kind of insurance policy. Vendors ask users to pay in advance for the "right" to access a pre-configured facility upon relatively short notice.

- Most of the respondents felt that the concept of DRS was a sound one. If one knew for sure they were going to have a disaster, a DRS site would be an excellent solution!

- The principle problem with DRS, according to those interviewed, is that it is an "expensive" approach. No one in the survey complained about the vendor's charges for the customer's actual usage of the DRS facilities during a disaster. The difficulty occurs when an organization tries to evaluate and justify the monthly fees vendors charge in advance of the disaster. For standalone Vendor Hardware, these fees typically range from $2,400 to $6,500 per month. Vendor Shell charges range from $200 to $1,000 per month.

- Computer users find that the DRS evaluation task is a subjective and frustrating activity. It involves analyzing factors that have rarely been considered or discussed within the firm. These factors include:

- Risk that a disaster might occur.

- Potential Loss to the firm, if such a disaster happens.

- Likelihood the insurer (i.e. the DRS vendor) can deliver what it needed.

- Unfortunately, firms find that Risk and Potential Loss are very hard to quantify. Although formal methodologies called Risk Analyses have been developed to lend structure to this process, most companies thus far have not used them to any great extent. Of those surveyed, 65% said their firms had undertaken no Risk Analysis. Among the 35% that stated they had used Risk Analysis, many indicated it was on a limited usage, experimental basis. The most common complaint about Risk Analysis was that the data gathering phase was too complex, time consuming, and subjective.

- Even if a firm does convince itself that substantial Risk and Potential Loss does exist, it finds that evaluating the viability of a DRS vendor is difficult. Since all the vendors are relatively new to the DRS business (the oldest, Sungard, has been in business less than a year), there is no hard evidence that the approach really works. To date, no DRS customer has had a disaster that resulted in usage of a DRS site.

- Compounding the difficulty of the DRS evaluation task is that the nature and magnitude of the decision inevitably requires the support of top management of the firm. However, top management, in most cases, does not understand the full extent of the risk to the firm if a disaster shuts down their computer site. In addition, they do not appreciate the complexities, from a logistics and technical point of view, of using another site for processing. They tend to underestimate the difficulties involved.

- Another factor complicating the DRS decision is that often in the past top management has approved a variety of relatively costly physical security expenditures (e.g., water detectors, Halon, diesel generators, etc.). These items were justified partially on the basis that they would reduce the likelihood that a disaster would occur.

- The final factor which inflates the cost and complexity of the DRS decision is that at some point most firms realize that having a Disaster Recovery facility is not the total solution. A carefully conceived and maintained Disaster Recovery Plan is needed to make it work. As mentioned earlier, Disaster Recovery Planning is itself an expensive and time consuming activity.

2. KEY DECISION PARAMETERS

- The Disaster Recovery option a firm selects depends to a great extent on how they judge their needs in three critical areas:

  (a) Access Speed (How fast do we need to get to a site once a disaster hits?)

  (b) Reliability (How certain must we be that (i) we can have access when we need it, (ii) it will be compatible, and (iii) sufficient computer time will be available?)

  (c) Cost (How much are we willing to pay for (a) and (b) above?)

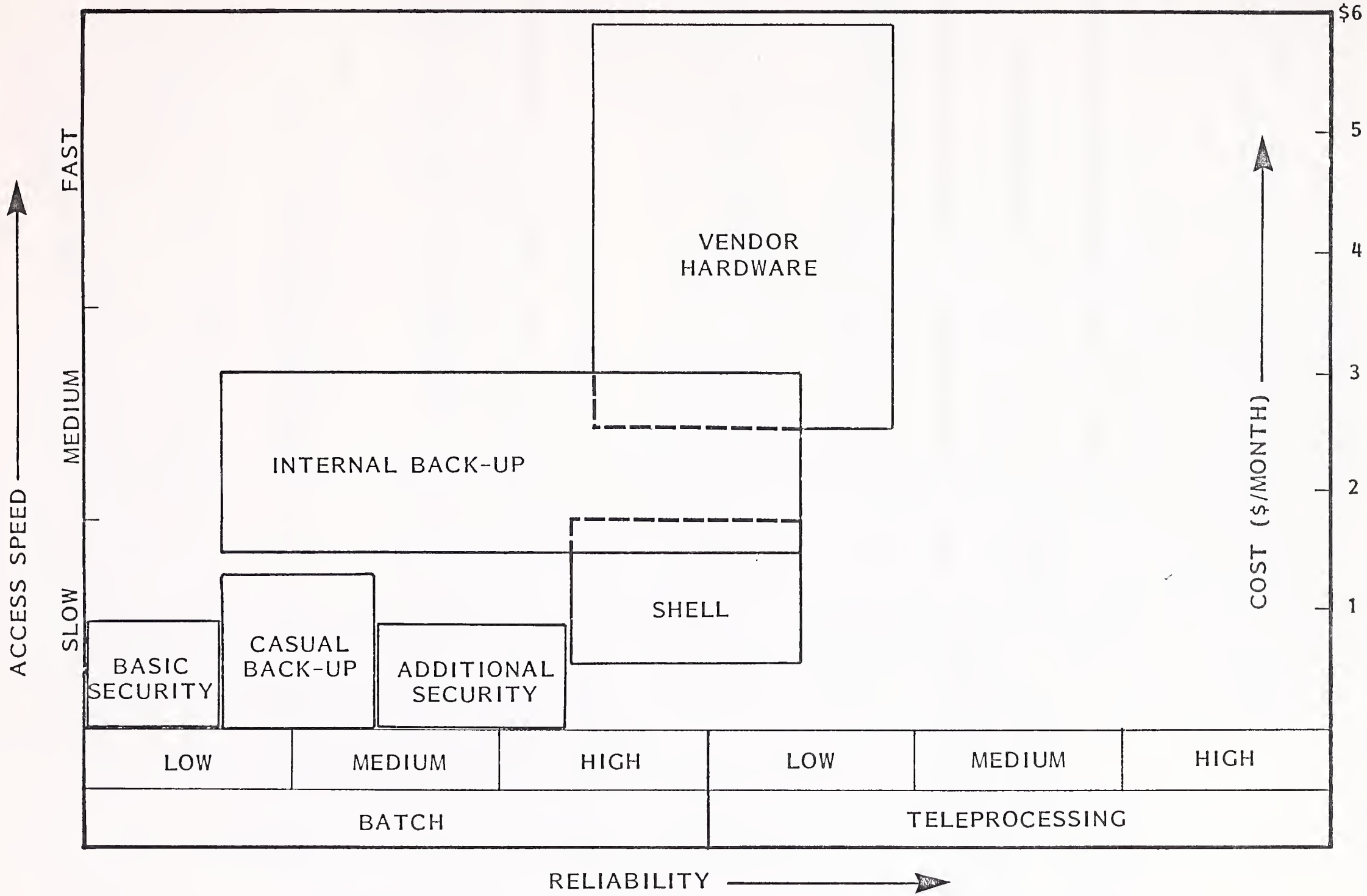
- Exhibit IV-16 shows the positioning of several Disaster Recovery options relative to these three criteria.

  - Security expenditures compete with DR facilities up to the point until High Batch Reliability is needed.

  - Once a firm decides they need High Batch Reliability, the DR options narrow to Shell, Internal Back-up and Vendor Hardware.

EXHIBIT IV-16

KEY DECISION PARAMETERS



- Generally, Shells fulfill the needs of cost conscious firms requiring High Batch Reliability. These organizations are willing to sacrifice Access Speed in order to keep their monthly costs around $1,000 per month.

- Internal Back-up can have a variety of characteristics, depending upon the strictness of the conditions management imposes. A very informal, "best efforts" Internal Back-up can have a Low Reliability. In contrast, a formally executed and continuously enforced approach can have a High Reliability. The actual costs of establishing an Internal Back-up site are difficult to identify since expenditures for facilities which improve back-up reliability often get placed into different budget categories. Some companies feel that the true costs of Internal Back-up is much in excess of what Vendors charge. Other firms argue the opposite.

- Vendor Hardware is viewed as the highest (visible) Cost, highest Reliability, fastest Access option. In essence, many firms say, "You get the most from Vendor Hardware, but you are going to pay for it!"

3. DESIRED DRS FEATURES

- Respondents were asked to evaluate DRS features in two ways. The first involved reviewing a list of thirteen potential features and indicating the importance of each feature to their decision to contract for a DRS. The second method asked them to rank the relative importance of four pre-selected features.

- Exhibit IV-17 shows the average ratings of the thirteen features.

  - Compatibility features rated first and second on the list. When answering the Operating Software Compatibility question, respondents generally indicated that the vendor must have either a similar type operating system or else have the proper hardware configuration so that they could bring their own operating system with them.

EXHIBIT IV-17

DISASTER RECOVERY SERVICE FEATURE PREFERENCES

RANK	DRS FEATURE	AVERAGE RATING*	PERCENT ANSWERING	
			"VERY IMPORTANT"	"NOT IMPORTANT"
	HIGHEST RATING			
1.	OPERATING SOFTWARE COMPATIBILITY	1.3	76%	8%
2.	TP NETWORK COMPATIBILITY	1.5	60%	14%
3.	ON-SITE HARDWARE	1.7	48%	15%
4.	24-HOUR ACCESS	1.7	49%	20%
	MEDIUM RATING			
5.	LOCATED WITHIN 50-MILE RADIUS	1.9	40%	29%
6.	STANDALONE COMPUTER	2.0	32%	34%
7.	COMPATIBLE DATABASE	2.0	38%	35%
8.	HANDLE MILTIPLE DISASTERS	2.0	32%	36%
9.	SHELL	2.1	28%	41%
10.	LOCATED WITHIN 200 MILE RADIUS	2.3	15%	44%
11.	SHELL AFTER INITIAL DR PROCESSING	2.3	18%	50%
12.	4-HOUR ACCESS	2.3	25%	59%
	LOWEST RATING			
13.	PORTABLE SHELL	2.5	9%	59%

*1 = VERY IMPORTANT
2 = IMPORTANT
3 = NOT IMPORTANT

- On-site hardware was favored over the Shell approach (1.7 versus 2.1).

- While 24 hours access was considered quite important (1.7), four hour access was rated low (2.3).

- Both "distance" features received a Medium rating. However, a site within 50 miles was preferred to one within 200 miles (1.9 versus 2.3).

- Although Portable Shell was ranked lowest of the thirteen features, a number of respondents indicated they had never considered the concept before and were "intrigued" by it. Nine percent of all respondents rated it Very Important.

- There was a relatively wide range of opinion on the importance of each feature. As shown in the "% Answering" column in Exhibit IV-17, each feature had sone "Very Important" as well as some "Not Important" responses.

- The preferences for four key features relative to each other is shown in Exhibit IV-18.

  - The most important feature of the four is "Likelihood Needs Fully Met." Both this feature and "On-Site Hardware" were considered to be more important than "Price."

  - "Nearness of the Site" ranked equally in importance to "Price."

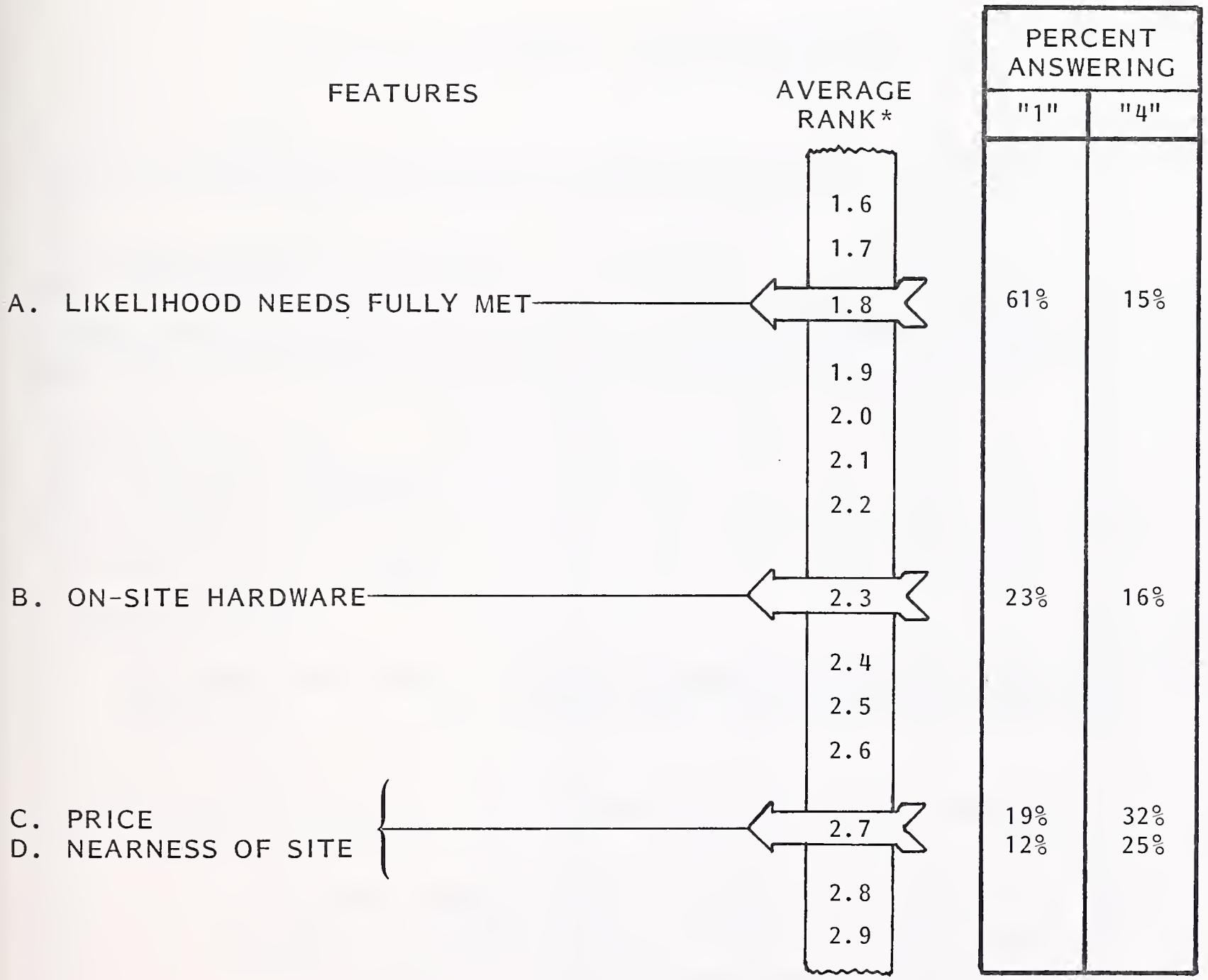
  - While "Price" tied as Least Important, 19% of all respondents said it was Most Important.

4. CONSULTING SERVICE INTEREST

- When asked to indicate their interest in having consulting services available, 42% of the respondents said they would like to see such services to help analyze what approach to take regarding Disaster Recovery. Thirty-eight

EXHIBIT IV-18

RESPONDENT RANKING OF FOUR KEY FEATURES



*1 = MOST IMPORTANT OF THE GROUP
2 = NEXT MOST IMPORTANT
3 = THIRD MOST IMPORTANT
4 = LEAST IMPORTANT OF THE GROUP

percent said they would like consulting services available to assist them in developing and maintaining a Disaster Recovery Plan. Several respondents indicated that they felt there were currently plenty of consultants to choose from. These consulting services were for the most part independent of the Vendor Hardware suppliers.

5. DESIRED DRS VENDOR CHARACTERISTICS

- Respondents feel that the "Vendor's Size or Financial Stability" is the most important of the four characteristics rated (Exhibit IV-19).

- Almost equally as important is vendor's "Reputation in DRS" (1.8 rating). Several respondents stated that they look for evidence that the vendor is seriously interested in DRS as a business. They are wary of vendors whose main purpose is to reduce his own back-up costs.

- It is <u>not</u> important to those surveyed that the vendor be from their own industry.

E. EVALUATING AND BUYING METHODS

1. BUYING CYCLE CHARACTERISTICS

- Selecting a DRS is viewed as a high risk decision. Should a disaster occur and the selected vendor fails to perform, the firm is exposed to substantial, possibly even crippling losses. This factor, in combination with the complexity and subjectivity of the Disaster evaluation, and the magnitude of the front-end costs ($30,000-80,000 per year for Vendor Hardware), results in the involvement of the highest levels of DP and corporate management.

- Exhibit IV-20 indentifies job functions which most frequently participate in the DRS decision.

EXHIBIT IV-19

RANKING OF VENDOR CHARACTERISTICS

VENDOR CHARACTERISTICS	AVERAGE RATING*	PERCENT ANSWERING	
		"VERY IMPORTANT"	"NOT IMPORTANT"
HIGHEST RATING			
1. SIZE OR FINANCIAL STABILITY	1.7	43%	10%
2. REPUTATION IN DRS	1.8	31%	15%
MEDIUM RATING			
3. HAS SAME HARDWARE/ SOFTWARE	2.0	35%	33%
LOWEST RATING			
4. IN SAME INDUSTRY	2.7	10%	81%

* 1 = VERY IMPORTANT
  2 = IMPORTANT
  3 = NOT IMPORTANT

EXHIBIT IV-20

BUYING RESPONSIBILITIES BY JOB TITLE

DRS BUYING RESPONSIBILITY	MOST FREQUENTLY MENTIONED JOB TITLES WITH THIS RESPONSIBILITY
DECISION	*CHAIRMAN OF THE BOARD *AUDIT COMMITTE OF BOARD *BOARD OF DIRECTORS *PRESIDENT *SENIOR VICE-PRESIDENT *VICE PRESIDENT-FINANCE *GENERAL MANAGER DIRECTOR OF MIS
EVALUATION	DIRECTOR OF MIS OPERATIONS MANAGER COMMUNICATIONS MANAGER INTERNAL AUDITOR VICE PRESIDENT PLANNING AND CONTROL DP SECURITY ADMINISTRATOR FACILITIES MANAGER ASSISTANT DP MANAGER

*NON-DP FUNCTION

- In a majority of the cases, senior non-DP management makes the final decision. The Top Computer Executive usually makes the recommendation, and the DP staff does most of the evaluation. Most Computer Executives direct the evaluation, but do not get immersed in the details.

- As a result of the factors above, the DRS buying cycle is long.

  - DRS users report an average buying cycle in excess of two years. Of those surveyed, 78% had a buying cycle of over one year.

  - It is likely the buying cycle will decrease somewhat as DRS vendors gain a larger customer base. However, INPUT believes the typical buying cycle will average 9 to 12 months for the next couple of years.

2. FORCES IMPACTING DRS INTEREST

- Exhibit IV-21 summarizes the forces which currently are increasing interest in Disaster Recovery.

- Top management rarely pushes for a Disaster Recovery facility unless they are pushed by forces outside of the firm (e.g., external auditors and/or government regulators).

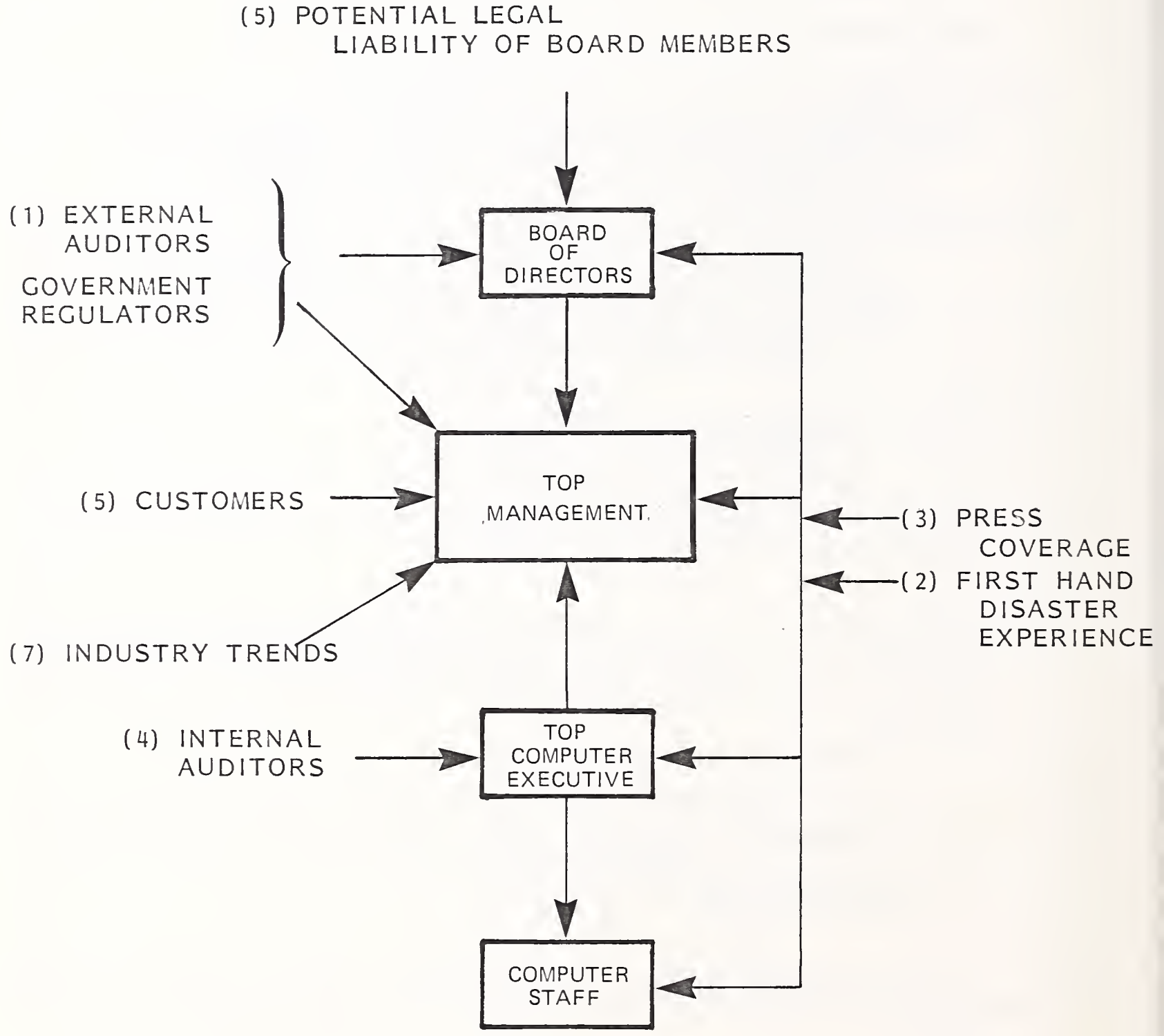
- Top Computer Executives in many cases have been waging a campaign for years to convince senior corporate management that the computer is essential to the fundamental operation of the firm.

- DP management themselves are being pushed in evaluating Disaster Recovery sites by:

  - Pressure from external and internal DP auditors.

EXHIBIT IV-21

FORCES INFLUENCING INTEREST
IN DISASTER RECOVERY



( ) RANKING OF FORCES

1 = MOST SIGNIFICANT
2 = NEXT MOST SIGNIFICANT, ETC.

- First hand awareness of the difficulties of finding a site if it has not been guaranteed in advance.

- One of the major factors inhibiting more active consideration of DRS is the belief that a disaster "won't happen here."

- Several of the firms now actively considering DRS indicated that because their firm had experienced a disaster or near-disaster, management was more willing to consider disaster facilities.

3. FUNDING

- When asked to indicate how much their firm might spend to guarantee the availability of a recovery facility, 68% of the respondents indicated they did not know. Of the 32% who gave a specific response, 41% of those stated "under $30,000 per year," 27% said "between $30,000 and $75,000 per year," and 32% said "over $75,000 per year."

- Of those surveyed, 42% indicated it was "highly likely" their firm would commit funds of some type to Disaster Recovery within the next six months. Forty-six percent, however, indicated it was "not likely" any funding would take place within this timeframe.

V COMPETITIVE ANALYSIS

V COMPETITIVE ANALYSIS

A. SCOPE OF COMPETITIVE ALTERNATIVES

- Because Disaster Recovery is considered a part of the overall issue of "Data Processing Security" (see Chapter IV, Section A, "The Disaster Recovery Issue"), the competition to DRS includes:

  - Security expenditures.
  - Internal back-up.
  - Co-ops.
  - Casual Facilities (e.g., Mutual Aid and Service Bureau).
  - Other DRS Vendors (Shells and Vendor Hardware).

B. VENDOR ANALYSIS

1. GENERAL

- Exhibit V-1 list vendors mentioned by survey respondents.

  - Data Processing Security, Inc., was the most frequently mentioned vendor by name.

  - Sungard was the most frequently mentioned Vendor Hardware supplier.

  - Contingency Group, Inc., although just getting into business during the past few months, has established a high level of awareness across the United States.

  - Shared Standby Systems received several mentions from East Coast respondents.

  - Mr. Joel Marot was identified as a Paris, France, based entrepreneur who is investigating the New York area market for a possible DRS.

  - McDonnell Automation and Litton have a very low profile. Only one firm in the survey mentioned them.

  - Data Processing Security implies it has a Shell in Dallas, and is considering Shells in Newark, NJ and on the West Coast. Plans originally called for DPS to construct a Shell for the Northern States Power Group, provided they got 40 companies to commit. Survey respondents gave the impression they may go the Co-op way instead.

  - Sungard was cited as considering the West Coast for another site.

EXHIBIT V-1

VENDOR MENTIONS

ORGANIZATION	LOCATION
VENDOR HARDWARE	
SUNGARD	PHILADELPHIA
SHARED STANDBY SYSTEMS	KING OF PRUSSIA, PENNSYLVANIA
CONTINGENCY GROUP, INC.	BENSENVILLE, ILLINOIS
COMPUTER RESEARCH CORP. ("FAILSAFE")	CHICAGO(PLAN NOW CLOSED TO NEW SUBSCRIBERS)
MR. JOEL MAROT ①③	NEW YORK CITY (HAS TWO CENTERS IN PARIS, FRANCE)
MCDONNELL AUTOMATION ③	ST. LOUIS, MISSOURI
LITTON③	LOS ANGELES
VENDOR SHELLS	
DATA PROCESSING SECURITY, INC.	DALLAS
DATASHIELD	MILWAUKEE
MR. JOHN LUGER①③	SEATTLE
RANDOLPH ENGINEERING	AUSTIN, TEXAS (PORTABLE SHELL)
COMPUTER RESEARCH CORP. ("FAILSAFE")	CHICAGO(PLAN NOW CLOSED TO NEW SUBSCRIBERS)
CO-OPS	
NORTHERN STATES POWER GROUP①	MINNEAPOLIS
DALLAS GROUP①	DALLAS
N.Y. CONTINGENCY GROUP	NEW YORK CITY
SERVICE BUREAUS	
IBM DATA CENTERS	VARIOUS CITIES
STATISTICAL TABULATING③	CHICAGO
BOEING COMPUTER SERVICES③	VIENNA, VIRGINIA
OTHER	
COMPUTER ALTERNATIVES②	NEW YORK CITY

① NOT THE OFFICIAL NAME ② TIME BROKERS ③ ONE MENTION ONLY

2. VENDOR COMPARISONS

- Exhibit V-2 profiles the three major Vendor Hardware suppliers.

  - All three have begun operation during 1979.

  - Hardware sizes and monthly fee ave very similar (although the top end of the monthly fees, and the Disaster Notification Fee are highest with Sungard).

  - All three are located within 800 miles of each other.

  - Two out of the three are located in the Philadelphia area.

- Exhibit V-3 profiles the four major Shell suppliers.

  - All four are located in the Central United States.

  - Three of the four are located in the Upper Midwest area.

  - Monthly fees vary considerably in terms of absolute amounts and discounts if customer volume hits certain levels.

  - Two of the four are active vendors (DPS and Datashield), one is a Co-op and one is a vendor that has closed the plan to new subscribers for unknown reasons.

  - Of the 11 identified firms cited as "highly interested" in the Northern States Power Co-op, 36% (4) are transportation firms and 27% (3) are manufacturers.

EXHIBIT V-2

PROFILE OF MAJOR "VENDOR HARDWARE" SUPPLIERS

NAME (OWNER)	LOCATION	CPU SIZE	DATE BEGAN*	MONTHLY FEE (DISASTER NOTIFICATION FEE)	NUMBER OF CUSTOMERS*	COMMENTS
SUNGARD (SUN INFORMATION SERVICES	DOWNTOWN PHILADEL-PHIA	1-3033	JANUARY 1979	$ 2,500 TO 6,500 ($25,000 TO $50,000)	35	STRENGTHS = LARGEST CUSTOMER BASE, AGGRESSIVE PROMOTION, CREDIBILITY, SEPARATE COMPUTER CENTER WEAKNESSES = DOWNTOWN LOCATION. HIGHEST MONTHLY AND DISASTER NOTIFICATION FEE, TP CAPABILITIES NOT RESOLVED
SHARED STANDBY SYSTEMS (SHARED MEDICAL SYSTEMS)	KING OF PRUSSIA, PENN.	1-3033	JULY 1979	$ 2,700 TO 4,700 ($10,000)	UNKNOWN	STRENGTHS = NOT IN DOWNTOWN PHILADELPHIA, LOWER DISASTER NOTIFICATION FEE WEAKNESSES = MAJOR COMPETITIVE EDGE OVER SUNGARD NOT CLEAR, 5 YEAR CONTRACT
CONTINGENCY GROUP, INC. (UNKNOWN)	BENSEN-VILLE, ILL. (CHICAGO SUBURB)	1-168	JULY 1979	$ 2,400 TO 4,000 ($10,000)	UNKNOWN	STRENGTHS = CLOSE TO O'HARE AIRPORT, LOWER DISASTER NOTIFICATION FEE WEAKNESSES = SIZE AND FINANCIAL STABILITIY, 5 YEAR CONTRACT

*ESTIMATED

EXHIBIT V-3

PROFILE OF MAJOR "SHELL" SUPPLIERS

NAME	LOCATION	ESTIMATED DATE BEGAN	MONTHLY FEE	NUMBER OF CUSTOMERS③	COMMENTS
DATA PROCESSING SECURITY, INC. (DPS)	DALLAS	1978	$ 1,000	UNKNOWN	7 YEAR CONTRACT REQUIRED "MANY LOOP-HOLES IN CONTRACT FAVOR THE VENDOR"①
DATASHIELD	MILWAUKEE	1979	$ 200	20④	2 YEAR CONTRACT LOOKING FOR 40 COMPANIES FOR 2 SITES
NORTHERN STATES POWER GROUP②	MINNEAPOLIS	1978	$ 2,000 (IF GET 15 USERS) $ 500 (IF GET 40 USERS)	11④	ORIGINALLY WAS GOING TO HAVE DPS CONSTRUCT THE SHELL
COMPUTER RESEARCH CORP.	CHICAGO	1979	$ 300 TO 500	UNKNOWN	PLAN NOW CLOSED TO NEW SUBSCRIBERS

① SURVEY RESPONDENT COMMENTS ② NOT THE OFFICAL NAME ③ ESTIMATED

④ NUMBER OF "HIGHLY INTERESTED" FIRMS ⑤ CO-OP

3. PROFILE OF 14 VENDOR HARDWARE CUSTOMERS

- During the survey 14 Vendor Hardware customers were identified by name. Thirteen of them are Sungard customers. Exhibit V-4 summarizes the characteristics of these firms.

  - Eighty-six percent of the customers are either banks or manufacturers.

  - Six of the 14 were banks. They were members of the Shell Co-op that Sungard bought out in order to get into the DRS business. These firms are called Charter Members.

  - Seventy-one percent of the identified customers are located in Philadelphia. Four of the eight non-charter members, however, are located outside of Philadelphia. Three of those four are located from 90 to 250 miles from Philadelphia, and one is located 2,500 miles away.

  - Seventy-seven percent of the customers are classfied as Large computer sites.

  - Of the seven customers which identified their TP usage, 71% of them had 15-25% of their processing power dedicated to on-line application.

  - Forty-three percent cited an access speed requirement of a "few days."

  - Ninety-three percent of the firms had single rather than multiple sites.

EXHIBIT V-4

PROFILE OF 14 "VENDOR HARDWARE" CUSTOMERS

- BY INDUSTRY (14):
  - 43% = BANKS
  - 43% = MANUFACTURERS
  - 7% = INSURANCE
  - 7% = UTILITY

- SALES (ASSETS): AVERAGE = $1.6B ($4.6B)
  RANGE = $0.9B-3.0B ($2.2B-$9.7B)

- BY NUMBER OF SITES (13):
  - 93% = SINGLE UNIT
  - 7% = MULTIPLE SITE

- BY CPU SIZE (13):
  - 23% = MEDIUM — AVERAGE = 1-3033
  - 77% = LARGE — SMALLEST = 1-148
  - 0% = VERY LARGE — LARGEST = MULTIPLE 3033

( ) = NUMBER OF FIRMS IN SAMPLE

EXHIBIT V-4 (CONT'D)

PROFILE OF 14 "VENDOR HARDWARE" CUSTOMERS

- BY ACCESS SPEED (7):

  14% = LESS THAN 8 HOURS
  43% = 8 TO 24 HOURS
  43% = FEW DAYS

- BY DISTANCE (14):

  71% = IN PHILADELPHIA
  21% = FROM 90 TO 250 MILES AWAY
   8% = OVER 2500 MILES AWAY

- BY % TP USAGE (7):

   0% = LESS THAN 15% USAGE
  71% = 15-25% USAGE
  14% = 26-50% USAGE
   0% = OVER 75%

- BY OPERATING SYSTEM (8):

  63% = MVS
  25% = VS
  12% = MVT

C. CUSTOMER ANALYSIS

1. VENDORS CONSIDERED

- Of the ten DRS customers interviewed, nine are Vendor Hardware customers. Eight of those nine are Sungard customers.

- Most customers surveyed signed up for DRS within the past ten months. Of the Vendor Hardware customer respondents, 50% did not consider any other Vendor Hardware service. None of the users surveyed considered Contingency Group, Inc.

- When asked if they issued a RFP, four of the six (67%) who replied said "no."

2. KEY SELECTION FACTORS

- For most users interviewed, the DRS concept was relatively new. As a result, their main criteria was - "does a reliable vendor exist which has the basic facilities (i.e., on-site hardware or a shell)" that they sought. Additional criteria that was mentioned by the respondents included:

  - Availability of a shell in addition to the on-site hardware (four mentions).

  - Cost of the service (four mentions, of which three are Vendor Hardware customers).

  - Vendor committment to DRS (three mentions).

  - Nearness (two mentions).

  - Other responses by individual users included:

- "Availability of vendor consulting."
- "On-Site Hardware used daily, not a standby center."
- "Could handle more of our work."
- "Vendor experience with large scale hardware."
- "24 hours access speed."

3. ROLE OF SENIOR (NON-DP) MANAGEMENT

- Most (70%) of the users surveyed reported that senior (non-DP) management was not involved in the DRS evaluation. Their function was only to approve the recommendation and sign the contract.

- Only one in ten reported that senior management was "heavily" involved in the evaluation.

4. CURRENT CONCERNS

- Users were asked to identify current concerns and ongoing problems with their DRS usage.

  - The most frequently cited difficulty was development and maintenance of the Disaster Recovery Plan (i.e., making available the people resources to work on the Plan, as well as to test it for viability).

  - Also mentioned as current concerns was "maintaining compatability with the DRS on an ongoing basis."

  - Two users cited concern with handling the on-line portion of their work, while two others mentioned difficulties with backing up data.

- When asked if the primary objectives for which the DRS was contracted had been met, eight of the nine (89%) of the Vendor Hardware users gave an unqualified "yes." The Shell user was considering reevaluating their decision.

- One-third of the Vendor Hardware users mentioned that testing of the back-up site was an important part of their plans.

5. ATTITUDES REGARDING PRICING

- Users surveyed seem satisfied overall with the level and structure of the DRS pricing.

- When asked what they like best about the pricing:

  - Three mentioned "the Disaster Notification Fee" concept. (The felt it keeps subscribers from using the center unless they are really in serious trouble.)

  - Three users had no specific opinions.

  - Other comments made by individual users: "short term contract," "discount off monthly fee for non-emergency processing," "having the disaster usage fee be covered by business insurance," and "the modest price" of the Vendor Hardware service.

- In reply to the question concerning what they liked least:

  - Six of ten had no dislikes.

  - Other comments included: "high cost of special equipment" (one user), and "site not close to us" (one user who was 90 miles away).

- When asked if they had any certain ways they would like to see pricing structured, 70% had no suggestions. Thirty percent mentioned lower monthly fees.

- The cost justification of DRS within their organization was cited as "easy" by 80% of the users.

VI MARKET ANALYSIS AND PRODUCT PACKAGING

VI MARKET ANALYSIS AND PRODUCT PACKAGING

A. MARKET OPPORTUNITY ANALYSIS

1. KEY FACTORS

- In order to evaluate the nature of the DRS market opportunity, the following factors are considered:

  - Does the market exist?
    - Are customers buying?
    - Are customers happy?
    - Are prospects interested?
  - Is the market big enough?
    - What size is it now?
    - How fast is it growing?
    - How many vendors exist?
    - Are they growing?

- What forces are stimulating growth?

- Does an opportunity exist for a market entry by a new vendor?

  - Do important unfulfilled needs exist?

  - Can significant product differentiation be established?

  - How strong is competition?

  - Can other vendors enter easily?

  - Is there a profitable opportunity?

- Exhibit VI-1 summarizes the market opportunity factors resulting from this survey. Those factors that tend to be encouraging from a market opportunity point of view are listed under the "Pro" column. Those factors which tend to add risk, uncertainity and/or a high level of expense are listed under the "Con" column.

- On balance, INPUT believes an intriguing market opportunity exists. Within the past 12 months, the DRS concept has grown from a virtually unknown method, to its current status where:

  - Fifty-seven percent of the top computer executives are investigating facility options.

  - Over 75 firms have already committed to Vendor Hardware and/or Vendor Shells.

  - One in six respondents say they "favor" the DRS approach.

- The DRS opportunity is not without its risks, however.

EXHIBIT VI-1

DRS MARKET OPPORTUNITY FACTORS

PRO	CON
A. MARKET EXISTENCE 1. VENDORS ARE SIGNING CUSTOMERS 2. 57% OF NON-DRS USERS CURRENTLY INVESTIGATING DR OPTIONS. 3. 40% HAVE SENIOR MANAGEMENT WITH "MUCH CONCERN" 4. 1 IN 4 SURVEYED PREFER "VENDOR HARDWARE" OR "VENDOR SHELL"	A. MARKET EXISTENCE 1. STRONG PREFERENCE FOR "INTERNAL BACK-UP" 2. DRS CONCEPT NOT YET "PROVEN" (NO CUSTOMER HAS YET HAD A DISASTER)
B. MARKET GROWTH 1. INCREASING DP/TP DEPENDENCE 2. AUDITOR EMPHASIS 3. INCREASING CONSULTING AND TRAINING ACTIVITIES 4. INDUSTRY EMPHASIS ON PHYSICAL SECURITY ISSUES 5. TRADE PRESS COVERAGE OF DISASTER RECOVERY EXPERIENCES	B. MARKET GROWTH 1. DRS LESS THAN 12 MONTHS OLD. DEPTH OF APPEAL STILL UNCERTAIN 2. MULTIPLE ALTERNATIVES TO DRS AVAILABLE 3. DISTRIBUTED PROCESSING TREND PROVIDES MORE INTERNAL BACK-UP OPTIONS
C. OPPORTUNITY ITEMS 1. MAJOR UNFULFILLED NEEDS, ESPECIALLY TP 2. BCS SIZE AND FINANCIAL STABILITY 3. BCS PROCESSING AND PERSONNEL RESOURCES	C. OPPORTUNITY ITEMS 1. HIGH MARKETING COSTS 2. MARKET ENTRY RELATIVELY EASY FOR LARGE FIRMS 3. RISK OF DOWNWARD PRICE PRESSURE FROM MARGINAL VENDORS 4. UNCERTAIN BUSINESS ECONOMICS DUE TO NEWNESS OF THE MARKET 5. RECESSION ECONOMY MAY DAMPEN SHORT TERM SALES

- Market entry by other firms is relatively easy.

- Marketing costs will be high due to the newness and complexity of the decision, the wide range of alternatives available, and increasing competitive activity.

- Distributing Processing will create more Internal Back-up options for DRS prospects.

2. UNFULFILLED PROSPECT NEEDS

- A key characteristic of a significant market opportunity is the existence of unfulfilled needs of potential buyers.

- INPUT believes that there exists five important unfulfilled needs in the DRS market at this time:

a. TP Support

- The most commonly expressed complaint about existing Disaster Recovery facilities is that they lack adequate TP support. Organizations are becoming increasingly dependent upon on-line applications. Their short term TP Disaster Recovery solution is to either to not process until TP equipment can be ordered, or to process in a batch mode. Neither of these two options will be satisfactory as TP applications become more and more integrated into the firm's operations.

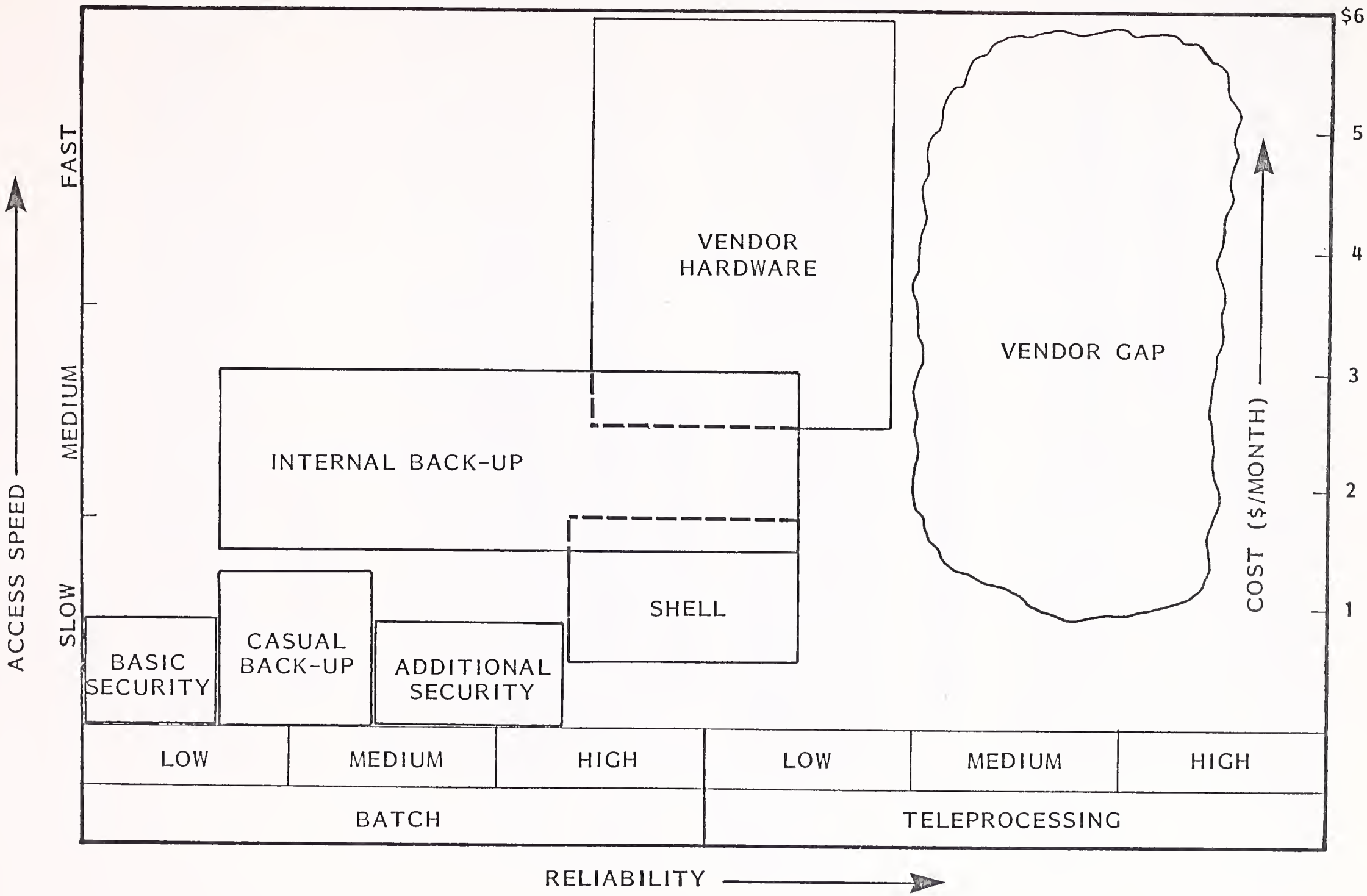
- Exhibit VI-2 indicates the "vendor gap" that currently exists.

b. Easier Evaluation Methods

- The magnitude, complexity, subjectivity and unfamiliarity of the Disaster Recovery facility evaluation process is a major deterent to a firm's serious consideration of DRS. The people resources required to undertake a DRS

EXHIBIT VI-2

THE VENDOR GAP



INPUT

evaluation is sufficiently large such that computer executives tend to postpone it. A significant opportunity exists for a innovative vendor to provide pre-packaged methods for evaluating Disaster Recovery needs. Just as today's life insurance salesman provides checklists, worksheets (and even computer programs) to guide his propsect through the bewildering array of options and considerations which must be analyzed, similarly a DRS vendor could provide methods to the DRS evaluator to make it easier and more convenient for him to make the DRS decision.

c. Cost Justification Techniques

- Computer users report major difficulties in translating the highly visible front-end costs of DRS into benefits that senior non-DP management can understand and agree to. Vendors who can offer carefully reasoned cost justification data will be fulfilling an important prospect need.

d. Multiple Disaster Protection

- One of the most difficult DRS vendor contract terms for computer users to accept is the provision that the vendor is not obligated to support more than the first client who declares a disaster. To the prospect, this is analoguous to buying fire insurance with the priviso that if more than one client has a fire at the same time, the insurance company does not have to pay. An opportunity exists for a vendor who can offer ways to guarantee to handle multiple disasters.

e. Special Equipment

- Many respondents complained that existing DRS vendors could not handle special hardware which they felt was essential to their operations. Examples include 3800 laser printers, 3850 mass storage, COM units and check sorters.

- A majority of the special equipment mentioned is high volume input/output devices. Careful planning and market segment targeting by a DRS vendor could likely reveal ways to meet this important need.

3. MARKET SEGMENT EVALUATION

- INPUT believes that the Fast Access-Batch and TP Access market segments are the most attractive at the present time to a firm of BCS's capacity and capabilities. Reasons include:

  - Computer users surveyed favor Vendor Hardware by a wide margin over Vendor Shell.

  - The trend is for companies to become increasingly dependent upon fast and continuous access to computer power. The access delay inherent in the Vendor Shell approach will become less appealing than the Vendor Hardware method.

  - Price erosion is more likely with the Vendor Shell approach since competitive "ready space" is harder to differentiate.

  - There are no vendors serving the TP Access market. Yet a great many firms desire to have this capability.

B. KEY SUCCESS REQUIREMENTS

- To successfully address the TP Access and Fast Access-Batch segment, four factors stand out as key success requirements. They are: making a commitment to DRS as a major business, establishing a tangible competitive edge, selling effectively at high management levels, and rapid entry into the marketplace.

1. COMMITMENT TO DRS AS A MAJOR BUSINESS

- The degree of commitment to the DRS business which BCS demonstrates to the markeplace will be as important to its ultimate success as any other major element.

- Prospects who are considering a subscription to a Vendor Hardware service feel they are paying a great deal of money in advance for a service which, if ever needed, can potentially effect the very survival of the firm. If these prospects get the slightest hint that the vendor is going to make care of his own internal needs first, then that vendor will be quickly passed over in favor of a more "external customer" oriented competitor.

- It is very important that everyone the prospect comes in contact with, from the sales people, to the support people, to the third shift operators at the back-up site, be able to demonstrate in their actions and in their thinking that the "external customer" comes first.

2. TANGIBLE COMPETITIVE EDGE

- Because a DRS is a highly intangible service requiring a very subjective decision-making process, it is important that a new vendor structure his product offering so that he offers a tangible competitive edge. The more visible and measureable the product, the higher the potential revenue opportunities.

- Exhibit VI-3 list eight possibilities for establishing a competitive edge in the DRS market at this point in time. Each method is rated according to the potential benefits to BCS and potential benefits to the prospect. The "rank" indicates the relative magnitude of the payoff ("1" = highest).

  - TP Facilities: Having in-place, compatible TP facilities for the DRS customer is the most sought after DRS facility identified in the survey. If BCS can configure a TP back-up facility that matches the market needs at a reasonable price, a competitive edge will exist that will be hard for competitors to duplicate.

  - Pre-Sale "Decision Simplification" Methodology: Addresses the need for easier evaluation methods, discussed in Chapter VI, Section A.2.b. above. By helping the prospect to evaluate his needs in a faster and more accurate manner, BCS can establish a great deal of credibility while simultaneously learning much about the prospect.

  - Post-Sale Bundled "DR Planning/Update" Services: Several survey respondents indicated that an important service of the Vendor Hardware approach could be to "keep us up to date on our planning efforts." By offering the customer bundled, ongoing Disaster Recovery Planning and Maintenance assistance, BCS can not only establish a competitive edge, but can also make it easier for the prospect to justify the entire DRS. Rather than "paying thousands of dollars a month for nothing if we never have a disaster," prospects can point out to their management that they are receiving very important services on an ongoing basis.

EXHIBIT VI-3

"COMPETITIVE EDGE" OPPORTUNITIES

		BCS BENEFITS				PROSPECT BENEFITS			
RANK	METHOD	TANGIBLE EDGE	LARGER MARKET	REDUCED MARKETING COSTS	IMPROVED RELIABILITY	REDUCED EVALUATION COSTS	IMPROVED CONFIDENCE	REDUCED FRUSTRATION	HANDLE MULTIPLE DISASTERS
1	TP FACILITIES	X	X		X		X		
2	PRE-SALE "DECISION SIMPLIFICATION" METHODOLOGY	X	X	X	X	X	X	X	
3	POST-SALE BUNDLED "DR PLANNING/ UPDATE SERVICES	X			X		X		
4	LOCATION	X			X				
5	LARGER PROCESSING CAPABILITY	X		X	X		X		
6	FACILITY DESIGN, PROTECTION, ACCESS	X			X		X		
7	SPECIAL EQUIPMENT	X	X		X		X		
8	DR SITE BACK-UP	X			X				X

- Location: While "nearness of the back-up site" was rated of medium importance (Exhibit IV-18), if two competitors are perceived as roughly equal in terms of services, the one closest to the prospect will have an important advantage. Nearness of the back-up site will become more significant as additional Vendor Hardware options appear on the market. For this reason, the location of the back-up site should be as close to the targeted market as possible.

- Larger Processing Capability: No DRS vendor today has a Disaster Recovery processing capacity greater than one Model 3033. Many firms desiring to contract for a DRS have larger processing needs than this. Thus, one way to gain a competitive edge is to be able to handle more of a customer's processing load than the competition.

- Facility Design, Protection and Access: The physical aspects of the back-up site will be carefully evaluated by DRS prospects. Careful attention should be paid to having the optimum combination of easy access, convenient use, and heavy security.

- Special Equipment: As discussed in Chapter VI, Section A.2.e., many firms would like to see laser printers, mass storage and other heavy volume input/output devices available. A study of current and future usage of these special items could perhaps illuminate opportunities to provide such equipment as a unique feature.

- DR Site Back-Up: Prospects want to know how well the back-up site is itself backed-up. A vendor who can display superior capability in this regard will score evaluation points with the many firms who are concerned about multiple disaster protection.

3. SALES EFFECTIVENESS AT HIGH LEVELS

- Confidence and trust is a very important ingredient of the DRS sale. Because the risks, potential losses and proof that the vendor can deliver are factors for

which no hard data exists, the decision-makers and recommendors (senior corporate and DP management) must place a great deal of faith in the sales personnel of the vendor. For those reasons, it is extremely important to use sales personnel who are capable of relating closely to senior executives of large firms. Deciding if a DRS should be used, and which vendor to contract with, are two of the most subjective, yet important decisions which senior management must face. Without sales effectiveness at these high levels, the DRS will fail to yield its potential.

4. RAPID MARKET ENTRY

- Twelve months ago there were no on-site hardware DRS vendors in the marketplace. Now there are several actively pursuing accounts. Because credibility is so essential to this market, it is important that, should BCS elect to enter this market, entry be made as soon as possible.

C. MARKETING STRATEGY

1. OVERVIEW

- The most attractive marketing strategy at this point in time, is to offer a Vendor Hardware service to the TP Access and Fast Access-Batch market segments.

- It is recommended that a "Full-Service Disaster Protection Service" be offered, not just a "Disaster Recovery Facility." The former emphasizes the providing of bundled services to assist with Disaster Recovery Planning and Maintenance. The latter implies "just another set of hardware and conditioned space."

- Specific suggestions for product features, marketing channels, pricing, promotion, etc., are outlined below.

2. PRODUCT FEATURES

- Based on an analysis of DRS feature preferences by survey respondents (Exhibit IV-17), and current competitive offerings, the following product features are recommended:

  - On-site Hardware of <u>at least</u> the power of a single 3033.

  - Physical location of the back-up site within 200 miles of 60% of the targeted market segment.

  - Availability of both standalone and shared computer processing.

  - Option of having 4, 8, and 24 hour access for batch processing in the event of disaster.

  - TP facilities necessary to enable a customer to switch to the back-up site within 24 hours.

  - Ready conditioned space for installation of customer's own equipment at the conclusion of his initial Disaster Recovery processing.

  - Up to eight weeks of Disaster Recovery processing.

  - Sufficient office and terminal space to accommodate the largest customer in the targeted market segment.

  - Six to 12 shifts of test time per year.

  - No two customers to be within a two mile radius of each other.

- Disaster Recovery Planning and Maintenance Services to include:

  . Two seminars per year on DR Planning methods and techniques.

  . Two person-days per quarter of on-site consulting.

  . Two "User Group" meetings per year of all subscribers to discuss common needs, problems and solutions.

  . Monthly newsletter service. Topics addressed include: DR Plan reminders, checklists, recent developments, etc.

- Usage of up to five runs per year of Risk Analysis software program.

- Availability, at extra cost, of additional Disaster Recovery training and consulting services tailored to the needs of each client.

3. PRICING

a. General Consideration

- The survey revealed mixed attitudes towards pricing. While "high costs" was frequently cited as an objection to Vendor Hardware, nevertheless it was ranked as less important than "meeting all of the firm's needs," and having on-site hardware." Most Sungard customer's surveyed indicated that cost was "easy to justify."

- The most active on-site hardware vendors (Sungard, Shared Standby and Contingency Group, Inc.) have very similar prices. They have effectively pre-conditioned the market to current structures and levels. Customers surveyed felt that the pricing methods were satisfactory.

- INPUT considers the Fast Access-Batch and TP Access market segments to be moderately price sensitive. They are willing to pay a significant premium over

Shells in order to have access to on-site hardware. On the other hand, if they cannot perceive tangible differences between competing vendors, they will use price as a way of differentiating.

- Prospects appear the least sensitive to prices charged for processing during the Disaster period. Respondents feel that if a disaster occurs almost any price is worth it, if it provides compatible back-ip on short notice. In addition, it is possible to obtain business interruption insurance which will pay for the vendor's charges during the period the customer's computer site is out of operation.

b. Pricing Suggestions

- The pricing suggestions below are made from a marketing strategy point of view. The other key component of pricing, the cost of doing business, must be factored into these recommendations in order to arrive at a sound, profit making opportunity.

- Suggested general pricing strategy is to establish the pricing structure and levels relatively close to existing vendors, except for cases where BCS has tangible competitive differences (e.g., TP facilities, special equipoment, etc.).

- Pricing structure and suggestions:

  - Monthly Fee to Guarantee Availability:

Equivalent CPU Capacity Required	$ Monthly Fee
148	2,000
158	2,300
168	3,500
3033	5,900
1.5 x 3033	7,000

(These rates are approximately 10% lower than those offered by Sungard, the leading vendor.)

- Twenty-five percent discount on monthly rates if at least 40 customers sign up.

- For unique TP facilities add an additional 33% per month onto the above monthly fees.

- Disaster Usage Fee ($/day): To be determined based on specific equipment offered and BCS current rates. Can be up to 15% higher than current vendor rates.

- Disaster Notification Fee: $10,000 ($15,000 less than Sungard's lowest fee, and equal to Shared Standby and Contingency Group rates.)

- Minimum Contract Term: Two years (Equal to Sungard and three years less than the other two vendors.)

- Charges for Disaster Recovery Planning and Update Services: No additional charge should be bundled into Monthly Availability Fee.

- Charges for additional training and consulting: To be based on BCS current rates.

4. MARKETING CHANNELS

- Due to the nature of the sales cycle (high level sale, subjective decision, long evaluation timeframe, and high risk decision), the following suggestions are made:

  - Sell direct using BCS sales personnel.

  - Have sales person(s) specialize in DRS sales activities on a full-time basis. Staffing recommendation is one sales person per $400,000 annual revenue desired.

  - Motivate regular BCS sales people (with financial and other incentives) to provide leads to the full-time DRS marketing personnel.

  - Support the DRS salesperson(s) with technical consultants capable of providing detailed Disaster Recovery Planning and configuration analyses. Staffing recommendation is one-half technical support person per sales person.

  - Use independent auditors and management consultants as sales missionary resources. Work out ways to exchange leads and assistance in a mutually profitable manner.

5. SALES PROMOTION

- Top priority should be given to establishing awareness and interest among organizations and firms that advise DRS prospects. (i.e., educate the educators.) Examples of groups to keep continuously aware of a DRS offering are auditors, managmeent consultants, trade associations (e.g., Computer Security Institute), GUIDE and SHARE (IBM user groups), and the computer trade press.

- Efforts should be made to address major conventions concerned with DP security (e.g., American Bankers Association, Info '80, etc.).

- Promotion pieces and stories should focus primarily on top management interests and concerns. The graphical design of these pieces should have a "top management" look.

- The primary image that should be promoted is that of:

  - DRS is a major business commitment.

  - BCS has a "tangibly different" service.

6. SALES STRATEGY

- Prospects with these characteristics should be the primary focus of initial sales efforts:

  - Banks with assets of at least $2 billion.

  - Manufacturers with sales of at least $1 billion.

  - Firms with Single Sites with CPU power in the range of one Model 145 to three Model 168s.

  - Firms with 10-50% of their computer power dedicated to TP.

  - Organizations which indicate the senior management has "some" or "much" concern about Disaster Recovery.

- Initial sales contacts should be made via top corporate management.

- The sales campaign thrust should be primarily focused on the top computer executive.

- Board of Directors exposure should be obtained as early as possible in the sales cycle.

- Active support should be given the DP staff personnel assigned to evaluate the DRS on a detailed basis.

D. NEXT ACTIONS

- The following actions are suggested should BCS elect to further pursue the DRS market.

  - Analyze the costs of serving the targeted market segments.

  - Analyze BCS TP capabilities in depth and match to market TP needs in order to identify potential "competitive edge" services.

  - Explore the possibility of acquiring an existing Co-op group as a way of getting rapidly into business and establishing credibility.

  - Explore the possibility of acquiring an existing vendor that is not connected with a major corporation (e.g., Contingency Group, Inc.).

  - Do additional research to determine who else is actively considering entering this market. Determine if a joint effort might be in the best interests of BCS and the interested group.

APPENDIX A: DEFINITIONS

APPENDIX A: DEFINITIONS

- AAGR (AVERAGE ANNUAL GROWTH RATE) - The AAGR is a computed growth rate over a time period in years, expressed as an average in terms of percent (%).

- ACCESS SPEED - The elapsed time required to obtain physical usage of a Disaster Recovery Facility starting from the time a disaster occurs.

- CASUAL ARRANGEMENTS - A term used for either Mutual Aid or Service Bureau type of Disaster Recovery Facilities.

- COMPANY HARDWARE - A Disaster Recovery Facility owned by the respondents' firm, and which has on-site hardware.

- COMPANY SHELL - A Disaster Recovery Facility owned by the respondents' firm and which consists of Computer Ready Space.

- COMPUTER READY SPACE - A physical facility that has been prepared in advance for the possible installation of a computer. Typically, such a site will have raised flooring, air conditioning, proper power supplies, and other items deemed essential for reliable computer processing. Also called a "Shell."

- CO-OP - An arrangement among two or more firms to share the costs of developing and maintaining Computer Ready Space.

- CPU POWER RATINGS - A means of classifying computer mainframes according to their approximate relative processing power. For this study the following power ratings were used (based on a Model 158 = 1.0).

Model	CPU Power Rating
145	0.4
148	0.5
155	0.8
158	1.0
3031	1.2
165	2.4
V5*	2.8
168	2.9
3032	3.0
V6/2*	4.6
3033	5.2
V7*	6.4
V8*	8.0
AP	1.9x Model rating
MP	1.7x Model rating

*Amdahl Models

- DISASTER - Any event which results in an unexpected computer site shutdown such that processing must be done at another site.

- DISASTER RECOVERY - The activities necessary to process at another computer site due to the unexpected shutdown of the normal site.

- DISASTER RECOVERY FACILITIES - Any alternative which enables a user to do computer processing on short notice at a physical location other than where the workload is normally processed.

- DISASTER RECOVERY PLAN - A detailed, documented description of all of the resources, procedures, and decisions required before, during, and after a Disaster.

- DISASTER RECOVERY SERVICES (DRS) - A vendor suppled facility which provides the user with physical access to hardware, software, and supplies in the event of a Disaster. The vendor is compensated by the user, in advance, for guaranteeing the availability of such facilities. Examples of DRS are Vendor Hardware and Vendor Shell. (Using a Remote Job Entry terminal to a vendor facility is not considered to be a DRS.)

- FIXED SHELL - A Computer Ready Space that is permanently set at a specific location.

- GUARANTEED ACCESS - The legal right to gain entrance to a Disaster Recovery Facility upon the occurrence of a Disaster.

- GEOGRAPHIC AREAS - Groups of states used for purposes of classifying and analyzing information for this report.

  - CENTRAL: Colorado, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Wyoming.

  - EAST: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Washington, D.C.

  - GREAT LAKES: Illinois, Indiana, Michigan, Ohio, West Virginia, Wisconsin.

  - SOUTH: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.

- WEST: Arizona, California, Idaho, Nevada, Oregon, Utah, Washington.

- IBM COMPATIBLE - Computer mainframes manufactured by firms other than IBM, but which will execute IBM developed systems software. Examples are computers marketed by Amdahl, Itel, and Control Data (Omega series).

- INTERNAL BACK-UP - Another site owned by the Respondent's organization, which can serve at a Disaster Recovery Facility. This site can be Computer Ready Space only ("Company Shell") or it can have on-site hardware ("Company Hardware").

- MULTIPLE SITES - An organization which has two or more computer sites, each of which has at least one Model 148 or larger.

- NON-GUARANTEED ACCESS - The lack of a legal right to gain entrance to a Disaster Recovery Facility. Typically, firms which have Non Guaranteed Access have a "handshake" or non-binding written agreement specifying that the owner of the Disaster Recovery Facility will use "best efforts" to provide access when it is needed.

- PORTABLE SHELL - A Computer Ready Space which is capable of being physically moved to another site.

- RESPONDENT - Firm participating in this survey. When the "number of respondents" or "percentage of respondents" term is used in this report, the calculation is based on the number of firms answering that particular question.

- SERVICE BUREAU - A Disaster Recovery Facility in which an arrangement is made with a computer services vendor to process some or all of the user's workload. Access to the facility is usually not guaranteed. The vendor does not actively market this type of processing as a Disaster Recovery Service.

- SHELL - See Computer Ready Space.

- SINGLE SITE - A firm which has only one computer site with a Model 148 or larger computer.

- TOP COMPUTER EXECUTIVE - The highest level full-time data processing manager in the organization.

- VENDOR HARDWARE - A Disaster Recovery Service with on-site hardware.

- VENDOR SHELL - A Disaster Recovery Service with Computer Ready Space only. No on-site hardware is present.

APPENDIX B: QUESTIONNAIRES

CATALOG NO. Y D R S

DISASTER RECOVERY SERVICES SURVEY

NON-DRS USERS

1. Please answer the following questions in the space below:

   a. In what city is your largest computer facility located?

   b. What type of medium to large scale computer mainframes are at this location (i.e., IBM 370/148 or larger - or the equivalent).

   c. How many terminals are supported at this location by IBM (or equivalent) mainframes?

   d. What operating system is used?

   e. Do you have any other locations with medium to large scale mainframes?

      ( ) No ( ) Yes (what mainframes? In which cities? # terminals)

LOCATION	#1	#2	#3
CITY	11	15	19
MAINFRAMES	12	16	20
NO. TERMINALS	13	17	21
OPERATING SYSTEM	14	18	22

2. Are there any computerized functions which are essential to your organization's daily operations?

   ____ 23 No ____ 24 Yes

   If yes, what are these functions?

   _____

   _____

3. What percentage of your CPU cycles in a given 24 hour period are used for on-line?

   _____ 25 %

4a. Does your organization have a TP network?

   ____ 26 No ____ 27 Yes

4b. If yes, in what cities are the network's major nodes?

   _____ 28

5. If your entire main computer site was unexpectedly shutdown, how quickly would you need access to a fully compatible backup site?

IN LESS THAN 8 HOURS _____ 29

WITHIN 8 TO 24 HOURS _____ 30

WITHIN A FEW DAYS _____ 31

DON'T KNOW _____ 32

6. Has your organization arranged for computer Disaster Recovery (DR) facilities?

_____ 33 No (Go to Question 11)

_____ 34 Yes

7. What type of DR arrangements have been made?

a. VENDOR SUPPLIED HARDWARE AND SPACE _____ 35 (go to U-8)

WHO? _____ 36

b. INTERNAL BACKUP (i.e., another site within our company) _____ 37

c. VENDOR SUPPLIED READY SPACE ("Shell") _____ 38 (go to U-8)

d. OTHER (Specify) _____ 39

_____

_____

_____

_____

_____

CATALOG NO. Y D R S

GENERAL QUESTIONNAIRE FOR
DISASTER RECOVERY SERVICES SURVEY

8. What do you like best about your current DR arrangements?

_____

_____

_____

9. What do you like least?

_____

_____

_____

10. Would you recommend your DR arrangement to others? Why or why not?

_____

_____

_____

11. Overall, is your organization satisfied with its current Disaster Recovery arrangements?

DON'T KNOW _____ 40

YES _____ 41

If yes, to what extent? _____

_____

NO _____ 42

If no, why not? _____

_____

_____

12. Is it likely you might adopt a different DR arrangement in the next 12 months?

NO _____ 43 YES _____ 44 (If YES, why?) _____

_____

13. To what extent is senior corporate (i.e., non-DP) management concerned about Disaster Recovery in the event of a shutdown?

MUCH _____ 45 SOME _____ 46 LITTLE _____ 47 NONE _____ 48

14. What factors most actively contribute to their attitude?

_____

_____

_____

_____

15. Has your organization undertaken any formal Risk Analysis?

NO _____ 49 YES _____ 50 (If YES, how much?) _____

16. Is your organization currently investigating Disaster Recovery alternatives on an active basis (that is, at least one person is spending part time on such an investigation)?

NO _____ 51 Why not? _____

_____

_____

YES _____ 52 If yes, when is a recommendation due? _____ 53

DON'T KNOW _____ 54

17. Which DR options are seriously being considered?

a. VENDOR SUPPLIED HARDWARE AND SPACE _____ 55

WHO? _____ 56

b. INTERNAL BACKUP (i.e., another site within our company) _____ 57

c. VENDOR SUPPLIED READY SPACE ("Shell") _____ 58

d. OTHER (Specify) _____ 59

_____

_____

_____

18a. Does your organization currently have a formal, written DR plan that details, in the event of a disaster, specifically who does what, when and how?

NO _____ (60) Why not? _____

_____

_____

_____

YES _____ (61)

18b. If YES, how recently completed? _____ (62)

18c. Has it been tested? YES _____ (63) NO _____ (64)

18d. Is top management satisfied with it? YES _____ (65) NO _____ (66)

18e. Is the DR plan reviewed, tested and updated regularly?

YES _____ (67) NO _____ (68)

19. Did you use any outside help in developing the plan?

YES _____ (69) NO _____ (70)

20. Are you familiar with the concept of Disaster Recovery Services offered by outside vendors?

NO _____ (71) (Give DRS definition, go to Question 22)

YES _____ (72) (Give DRS definition)

21a. Do you know of any DRS vendors by name?

NO _____ (73) YES _____ (74)

21b. If yes, which ones? _____ (75)

_____

21c. Which DRS firm is the leader in your opinion?

_____ (76)

_____

22. Listed below are some characteristics of a possible Disaster Recovery Service (DRS). Please check the box which best expresses how important you feel each characteristic would be in the evaluation and selection of a DRS for your organization.

A. PROCESSING FEATURES	VERY IMPORTANT	IMPORTANT	NOT IMPORTANT	DON'T KNOW
1. Operating software compatability (same release level)	____ 77	____ 78	____ 79	____ 80
2. Compatible TP network	____ 81	____ 82	____ 83	____ 84
3. Computer already installed	____ 85	____ 86	____ 87	____ 88
4. Compatible data base facilities	____ 89	____ 90	____ 91	____ 92
5. Availability of stand-alone computer	____ 93	____ 94	____ 95	____ 96
6. Availability of a computer ready "shell" after initial 6 weeks of disaster recovery processing	____ 97	____ 98	____ 99	____ 100
B. PHYSICAL FACILITIES				
1. Located within 50 miles	____ 101	____ 102	____ 103	____ 104
2. Located within 200 miles	____ 105	____ 106	____ 107	____ 108
3. Ready space for computer installation	____ 109	____ 110	____ 111	____ 112
4. Ability to handle multiple disasters simultaneously	____ 113	____ 114	____ 115	____ 116
5. Availability of a portable "shell" moveable to a location of your choosing	____ 117	____ 118	____ 119	____ 120

22. (Cont'd)

C. ACCESS FEATURES IF DISASTER OCCURS	VERY IMPORTANT	IMPORTANT	NOT IMPORTANT	DON'T KNOW
1. Within 4 hours of notification	121	122	123	124
2. Within 24 hours of notification	125	126	127	128
D. VENDOR SUPPORT AND EXPERTISE				
1. Vendor expertise in your hardware and software	129	130	131	132
2. Vendor expertise in your industry	133	134	135	136
3. Vendor size or financial stability	137	138	139	140
4. Vendor reputation in DR Services	141	142	143	144

E. OTHER FEATURES YOU WOULD LIKE TO SEE (Specify) 145

1. _____
2. _____
3. _____
4. _____

23. How likely is it that your company will commit funding in the next 6 months to establish a Disaster Recovery capability?

Highly likely 146

Somewhat likely 147

Not likely 148

Don't know 149

24a. How much might your company be willing to spend per year to guarantee the availability of Disaster Recovery facilities?

$_____ (Specify amount)
150

_____

_____

24b. How was this amount determined?

_____

_____

_____

_____

24c. What type of service do you feel you should be able to obtain for that expense?

_____

_____

_____

25. Would you like to see consulting services available to help your organization.....

Analyze what approach to take regarding Disaster Recovery?

YES _____ NO _____
151 152

Develop and maintain a Disaster Recovery plan?

YES _____ NO _____
153 154

26. What pricing features of Disaster Recovery Services do you especially like or dislike? Why?

_____

_____

_____

_____

27. How would you prefer to see Disaster Recovery Services priced?

28. If your organization elected to seriously evaluate a DRS, who, by job title, would....

Evaluate the Service? _____

Make the final decision? _____

29. How long would it take to make a decision once you begin to evaluate DRS vendors?

30. What would be your main objections regarding contracting with a DRS vendor?

31. What factors might encourage your organization to contract for such a Service?

32. Assuming you are evaluating a DRS, please rank the following items according to their relative importance to your final decision..... (1 = most important, 4 = least important)

_____ HARDWARE IS ALREADY ON-SITE
155

_____ NEARNESS OF DISASTER RECOVERY SITE TO YOUR CURRENT COMPUTER SITE
1111 156

_____ PRICE OF SERVICE
157

_____ LIKELIHOOD COMPANY'S NEEDS WILL BE FULLY MET IF DISASTER OCCURS
158

33. All things considered, at this point in time, which of the following Disaster Recovery options are most appealing to your organization? (If more than one, please rate 1 = most appealing, 4 = least appealing)

a. VENDOR SUPPLIED HARDWARE AND SPACE _____ 159

WHO? _____ 160

b. INTERNAL BACKUP (i.e., another site within our company) _____ 161

c. VENDOR SUPPLIED READY SPACE ("Shell") _____ 162

d. OTHER (Specify) _____ 163

_____

_____

_____

_____

_____

34. Why are you favoring this (these) options, at this point in time?

_____

_____

_____

_____

_____

35. What other observations or comments would you like to make?

36. Do you know of any other organizations which are actively considering Disaster Recovery arrangements and options?

NO _____

YES _____ (Name of Companies) _____

End of Interview

THANK YOU VERY MUCH FOR YOUR TIME

CATALOG NO. Y D R S

ADDITIONAL COMMENTS:

CATALOG NO. Y D R S

DISASTER RECOVERY SERVICES SURVEY

DRS USERS

1. Please answer the following questions in the space below:

   a. In what city is your largest computer facility located?

   b. What type of medium to large scale computer mainframes are at this location (i.e., IBM 370/148 or larger - or the equivalent).

   c. How many terminals are supported at this location by IBM (or equivalent) mainframes?

   d. What operating system is used?

   e. Do you have any other locations with medium to large scale mainframes?

      ( ) No ( ) Yes (what mainframes? In which cities? # terminals)

LOCATION	#1	#2	#3
CITY	11	15	19
MAINFRAMES	12	16	20
NO. TERMINALS	13	17	21
OPERATING SYSTEM	14	18	22

2. Are there any computerized functions which are <u>essential</u> to your organization's daily operations?

   ____ No (23) ____ Yes (24)

   If yes, what are these functions?

   _____

   _____

3. What percentage of your CPU cycles in a given 24 hour period are used for on-line?

   _____ % (25)

4a. Does your organization have a TP network?

   ____ No (26) ____ Yes (27)

4b. If yes, in what cities are the network's major nodes?

   _____ (28)

5. If your entire main computer site was unexpectedly shutdown, how quickly would you need access to a fully compatible backup site?

IN LESS THAN 8 HOURS _____ 29

WITHIN 8 TO 24 HOURS _____ 30

WITHIN A FEW DAYS _____ 31

DON'T KNOW _____ 32

6. Has your organization arranged for computer Disaster Recovery (DR) facilities?

_____ 33 No (Go to Question 11)

_____ 34 Yes

7. What type of DR arrangements have been made?

a. VENDOR SUPPLIED HARDWARE AND SPACE _____ 35 (go to U-8)

WHO? _____ 36

b. INTERNAL BACKUP (i.e., another site within our company) _____ 37

c. VENDOR SUPPLIED READY SPACE ("Shell") _____ 38 (go to U-8)

d. OTHER (Specify) _____ 39

_____

_____

_____

_____

_____

USER'S QUESTIONNAIRE FOR DISASTER RECOVERY SERVICES

U-8a. Does your organization have a formal, written DR plan that details, in the event of disaster, specifically who does what, when and how?

NO _____ (164) Why not? _____

_____

_____

_____

YES _____ (165)

8b. If Yes, how recently completed? _____ (166)

8c. Has it been tested? YES _____ (167) NO _____ (168)

8d. Is top management satisfied with it? YES _____ (169) NO _____ (170)

8e. Is the DR plan reviewed, tested and updated regularly?

YES _____ (171) NO _____ (172)

8g. Did you use any outside help in developing the plan?

YES _____ (173) NO _____ (174)

If yes, who? _____ (175)

9. When did your organization first begin seriously investigating DRS alternatives?

_____ (176)

10. When did you make a final decision and sign a contract?

_____ (177)

11. Which vendors did you seriously consider? Why?

_____

_____

_____

12. Which vendors did you not seriously consider? Why not?

13. What support did the vendor(s) provide during your investigation of their capabilities?

14. What evaluation criteria did you use? _____

15. Did you issue a formal "Request for proposal"?

YES _____ (178) NO _____ (179)

16. What were the three primary reasons why your current DRS vendor was selected over the others you considered? (Please rank by importance: 1 = most important, 2 = next most important, etc.)

_____ (180) AVAILABILITY OF VENDOR CONSULTING

_____ (181) AVAILABILITY OF COMPUTER-READY SPACE

_____ (182) COMPUTER FOR DISASTER RECOVERY ALREADY INSTALLED

_____ (183) SPEED OF ACCESS IF DISASTER OCCURS

16. (Cont'd)

_____ COST
184

_____ VENDOR FINANCIAL STABILITY
185

_____ NEARNESS OF BACKUP FACILITIES TO YOUR COMPUTER SITE
186

_____ COMMITMENT OF VENDOR TO DRS
187

_____ VENDOR EXPERTISE IN YOUR INDUSTRY
188

_____ AVAILABILITY OF TELEPROCESSING FACILITIES
189

_____ OTHERS (Specify) _____
190

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

17. How is your DRS priced?

_____

_____

_____

_____

18. What is the length of your contract? _____
191

19. What pricing terms did you like best? Why? _____

_____

_____

_____

_____

20. What pricing terms did you like least? Why? _____

21. How would you prefer to see DRS priced? Why? _____

22. To what extent was senior corporate (i.e., non-DP) management involved in the investigation and the decision?

23. What were the main objections encountered from within your organization to the use of a Disaster Recovery Service?

24. How did you justify the cost of a DRS?

25. Was the cost of DRS easy or difficult to justify? Why?

EASY _____ DIFFICULT _____

26. What are your organization's primary current concerns regarding the DRS?

27. What on-going problems have you encountered in order to stay prepared for a disaster?

28. Have the primary objectives for which the DRS was contracted been met? Why or why not?

29. Would your organization be willing to consider other DRS vendors when your current contract expires? Why or why not?

30. What other observations or comments would you like to make?

31. Do you know of any other organization which have contracted for DRS, or are actively considering such a service?

NO _____

YES _____ (Name of Organizations) _____

End of Interview

THANK YOU VERY MUCH FOR YOUR TIME

CATALOG NO. Y D R S [ ] [ ]

ADDITIONAL COMMENTS: